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THE UNIVERSITY OF ALBERTA

AN ECOLOGICAL ANALYSIS OF THE SCHOOLS IN A SMALL WESTERN CANADIAN CITY: CAMROSE, ALBERTA

by

HELEN LOUISE PIERCE

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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EDMONTON, ALBERTA
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "An Ecological Analysis of the Schools in a Small Western Canadian City: Camrose, Alberta," submitted by Helen Louise Pierce in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

The ecology of education is an underdeveloped area of knowledge. Literature reviewed indicates that sociologists and educationalists have been concerned with the ecology of education to a limited extent only. The purpose of this study is to analyze ecologically the schools in the City of Camrose in the Province of Alberta.

To accomplish the analysis the study is divided into five parts: (1) the introduction and review of the literature, (2) the ecology of school sites, (3) the ecology of school personnel, (4) the ecology of the school as a factor in school and community relations, and (5) the major findings, comments and conclusions, and implications. A variety of data-collecting devices were used--documents, maps, interviews, school records, simple schedules, and attendance sheets.

The analysis of the ecology of school sites indicates that school sites, provided free or very nearly free by the town until 1957, were located on the periphery. The trend seemed to be toward purchased and larger peripheral sites.

The major findings from the analysis of the ecology of school personnel were: (1) there were four-fifths of all school personnel living within three-quarters mile of school; (2) recommended maximum distances were exceeded by some elementary school pupils, but were not exceeded by

junior and senior high school pupils; (3) the different areas of the city, bounded by traffic arteries and natural surface features, seemed to influence but not determine Public School District attendance boundaries for elementary schools; (4) non-professional more than professional adult school personnel tended to live near the schools and in the older parts of the city.

Most pupil and adult personnel journeyed to school independently. However, the mode of journey to school and maximum distance of independent travel varied by seasons, time of day, and school characteristics. Depending on the season, maximum distance of independent journey to school appeared to be from one-quarter to three-quarters mile for elementary, one-half to one mile for junior high, and three-quarters to one mile for senior high school pupils. These distances were less than maximum distances recommended by town planners at the junior and senior high school levels, but about the same at the elementary school level. Adult modes of travel to school varied little by seasons or time of day. About one-half of adult school personnel drove a car, a third walked, and the remainder depended upon someone to journey to work.

The number of pupils and adult school personnel eating noon lunch at school varied with distance from school and with the season. The analysis suggests that

the critical distance associated with eating noon lunch at school is one-half mile for elementary pupils and one mile for junior high and senior high school pupils and adult school personnel.

School location appeared to influence some but not all community use of schools. Use of schools for meetings, adult education classes, and civic purposes seemed to be influenced by school location. Facilities and church affiliation appeared to be the main factors determining other community use of schools.

There seems to be evidence that ecological processes of concentration, centralization, segregation, invasion, and succession affected school site location, school personnel distribution, and community use of school property.

It is concluded that ecology of education should be a concern of sociologists, town planners, city administrators, school boards, school administrators, and school teachers to assist in administrative tasks, to facilitate teaching and learning, and to develop better ecological concepts and theory for dealing with school spatial relationship in a community.

ACKNOWLEDGEMENTS

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PART I. TOWARD AN ECOLOGICAL ANALYSIS OF SCHOOLS

CHAPTER I

INTRODUCTION

Ecology is the study of the distribution in space of living organisms--plants, animals, and human--and is concerned with the processes by which adaptions are reached and maintained. These ecological processes are specialized forms of the competitive process.

Human ecology has to do with the patterning of regions, communities, and other groupings. It explains the distribution of human beings and their institutions in space at a given time. In the duration of time it provides systematic knowledge of social change. It includes symbiotic dependence, interdependence resulting from communication and mutual understanding, and diffusion of knowledge. Competitive selection takes place, locations are subject to the main trends of growth and change, institutions emerge where there is need for their services, and they compete spatially with others. Distribution is not consciously planned in many situations. Usually the planning, if any, comes after problems of competition for space become evident.

Human ecology, as a field of study, has been developed primarily by sociologists who have been theoretically oriented. However, the applications of ecology are especially significant for those most closely associated with the spatial development of communities--town planners, administrative bodies, and officers of community institutions, among whom are professional educators. The present study is concerned with the ecology of schools in one small North American city, Camrose, in the Province of Alberta, Canada.

1. THE PROBLEM

The ecology of education, as disclosed by the literature which is concerned with educational phenomena in their spatial aspects, is an underdeveloped area of knowledge. Sociologists have dealt with human spatial relationships generally, with limited attention to education. Students of education have dealt with many detailed educational phenomena, but not often in relation to their ecology. The present study is, therefore, an excursion into educational ecology which draws on the writings of sociologists who have developed the theories and concepts of human ecology, and the writings and reports of educators and town planners who have been concerned primarily with the practical problems of school locations.

Statement of the problem. The specific purpose of this study was to analyze ecologically the schools in the City of Camrose in the Province of Alberta. An attempt was made to observe and to analyze ecological relationships suggested by these questions: What has been the ecology of school sites in Camrose? What was the ecology of school personnel in the spring of 1962? What have been some effects of the ecology of schools on school-community relations? What are the implications of the ecology of this city's schools for town and educational planning?

Reasons for the study. There were theoretical and practical reasons for this study in the ecology of schools. There was, in the first place, a gap in knowledge. Very little research had been done on the ecology of schools in any Alberta community. Town planning reports dealt with school ecology in a very limited manner.[1] Without

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[1] Edmonton District Planning Commission, A General Plan for Fort Saskatchewan (Edmonton: 1954); Red Deer District Planning Commission, Innisfail General Plan (Red Deer: 1960); The Oldman River District Planning Commission, General Plan 1960 Analysis of the Survey Part Three (Lethbridge: April, 1961); Alberta Department of Municipal Affairs, Planning Report of Town of Stettler (Edmonton: Queen's Printer, [1952]).

more specific knowledge of school ecology, knowledge about Alberta communities and their ecology must remain incomplete.

At the applied level there is a continuous need for specific knowledge of ecology of schools for planning town and school development in smaller communities. As shown in Chapter II, most town planning literature appears to deal with larger cities where principles of neighbourhood design can be applied. In the Province of Alberta, for instance, where rapid steps have been made in town planning since 1950, there is a dearth of organized planning knowledge applicable to the locating of schools in smaller communities. In the spring of 1962 there were, in this one province, five cities under 20,000 population, ninety towns, and one hundred fifty-eight villages. It was believed that better knowledge of school ecology in the smaller communities could contribute to solution of their planning problems.

In view of the limited theoretical and applied knowledge available on the ecology of schools in smaller communities, the decision was made to study one small city, Camrose, in depth as a "case" study. The reasons for choosing this design were both theoretical and practical, long-range and immediate. The theoretical,

long-range reasons are illustrated in the two following quotations:

> By developing the community case study, it is anticipated that light will be thrown upon all those complex and contradictory social processes and patterns that constitute the conditioning factors of the child and the school, and that in this way a contribution may be made to the solution of school problems and the development of more effective educational procedures.[2]

> It may make good sense in the next few years, at least, to emphasize essentially descriptive level studies, of an exploratory and a case-study sort. These should aid later researchers by providing a more detailed body of information on which to base hypotheses for more sophisticated research to follow.[3]

There were at least four more practical and immediate reasons for the design of this study. As shown in Chapter III, Camrose had passed from a village to a town and a small city in the course of fifty years, and the records of this growth were fairly complete. The community itself and its records were accessible. Further, its size, 6,924 inhabitants in 1961, made it compassable for a case study. Here, then, was a community for a case study of school ecology at different stages of community

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[2] Frederic M. Thrasher, "The Study of the Total Situation," Readings in Educational Sociology, II, ed. by E. George Payne, (New York: Prentice-Hall, Inc., 1934), pp. 733-34.

[3] Donald L. Foley, Neighbours or Urbanites? (Rochester: The University of Rochester, 1952), p. 62.

growth. Another reason was the researcher's familiarity with the community, based on living in the Camrose area for over four decades, two of which were spent as a school teacher in the City of Camrose.

2. ORGANIZATION AND PROCEDURE

To analyze the ecology of the schools, the study is divided into five parts. Part I deals with theoretical knowledge related to ecology. A survey of sociological and educational literature is given with reference to ecology in general, ecology of schools, and ecology of schools in Alberta. Some trends that seem apparent from the literature are summarized.

Part II of the study is descriptive and historical. One chapter describes the location, the urban development, and the 1962 land-use system of Camrose with emphasis on school sites. Another chapter gives the historical development of school systems in Camrose from the time of the first school to the spring of 1962. The data for these chapters were obtained from provincial publications, from local documents and records of the City of Camrose and of the Camrose Public School District, from maps of the city, and from interviews with key personnel. Part II concludes with a discussion of the ecology of school sites in Camrose.

Part III is an ecological analysis of the distribution and journey to work (or school) of school personnel. In this study school personnel include the pupils, the professional personnel of teachers and administrators, and the school adult personnel who are not professionals--the caretaking, office, and maintenance workers, and the bus drivers. The data analyzed were obtained from school records and from a schedule completed by pupil and adult school personnel. Part III is concluded with a discussion of ecological processes in the distribution of school personnel and their journey to school.

The relation of school ecology to use of schools by the community is explored in Part IV. For this part of the study data were obtained from a variety of sources, including school records, University of Alberta offices and reports, attendance sheets circulated at some meetings held in schools, interviews with school administrators, and a schedule distributed to adults using school facilities for adult education purposes. Part IV is concluded with a discussion in ecological terms of community use of school property.

The entire study is ended by two chapters which make up Part V. The first deals with findings, comments and conclusions, and implications for town and educational planning. The second is concerned with suggestions for

further research related to the ecology of schools.

While theoretical, descriptive, and historical aspects of school ecology are covered in Parts I and II, the greatest part of this study is concerned with the ecological analysis of schools in the City of Camrose in 1961-1962. All data pertaining to the distribution and the journey to work (or to school) for pupil and adult school personnel and pertaining to the community use of the schools are from the 1961-1962 school year.

Different methods of gathering and treating the data are used in Parts II, III, and IV--each distinctive research units as well as parts of the whole study. Therefore, the source and treatment of data used in each are given in the opening paragraphs of appropriate chapters.

3. LIMITATIONS

This study has one major and three minor limitations that should be noted, along with certain offsetting advantages. By attempting to follow an ecological approach strictly, a great many things that could be included in a case study, and about which people are aware, have been deliberately omitted. This inherent limitation can only be overcome by extending research to include social and cultural factors of a given situation.

The first of the three minor limitations is the limited analysis attempted of concentration of pupil and adult place of residence in relation to school locations. The second is the limited attention given to school-community relations and school ecology. These two areas for research were not pursued to the fullest extent because of the difficulties obtaining further data would entail. The third limitation is the limited number of relationships which could be explored from present data, since the study was not designed for machine data-processing. The relationships which have been analyzed are, therefore, those considered the most essential for this study.

Off-setting these general and specific limitations, however, there are three advantages accruing from an attempt at rigorous ecological analysis. One is that by excluding most social and cultural factors, the analyst may maintain a degree of objectivity toward observed data which is often difficult to achieve in other kinds of social analyses. The second is the specificity of knowledge that strict application of the ecological approach may be expected to yield. The third is the heuristic foundation provided for other kinds of sociological and educational research. This is one of the main reasons for undertaking ecological research. As a consequence of this study it

is hoped others may be able to formulate better hypotheses for their particular studies, particularly of smaller communities and their educational systems.

CHAPTER II

A SURVEY OF THE LITERATURE RELEVANT TO AN ECOLOGY OF EDUCATION

1. INTRODUCTION

A basic assumption in social science is that the results of research are more likely to contribute to science and eventually to its application if they are directed by systematic theory. A combination of theory and observed data provides a more secure ground for explanation and prediction than the research findings provide by themselves. This point of view has been emphasized by Selltiz and associates as follows:

> The relation of theory and research is one of mutual contributions. Theory can point to areas in which research is likely to be fruitful, can summarize the findings of a number of specific studies, and can provide a basis for explanation and prediction. Research findings, on the other hand, can test theories which have been worked out, can clarify theoretical concepts, and can suggest new theoretical formulations or extend old ones. Moreover, the process of reciprocal contribution is a continuing one; . . .[1]

Ideally this chapter should be a survey of theories

---

[1] Claire Selltiz and others, Research Methods in Social Relations (rev. ed.: [New York]: Henry Holt and Company, Inc., 1960), pp. 498-99.

that have been formulated with regard to spatial relations, particularly the spatial relations involving education. However, in this survey of the literature the term "theory" has to be very liberally interpreted to include the general ideas, concepts, specifically stated theories, statements of general practice, and rules of thumb, which are relevant to an ecology of education. The works surveyed are those of social scientists writing at an abstract and theoretical level, textbooks, town planning reports, and guides of town planners and educational administrators, concerned with the location of schools. Although this survey of the literature cannot be said to be exhaustive, it is believed to provide a useful foundation: (1) for selecting phenomena to be observed and analyzed, (2) for interpreting the results of analysis, and (3) for drawing conclusions and stating implications.

In the present chapter an attempt has been made to move from what might be called general theory to specific theory. Under the heading of "Ecology" the following are considered: derivation of the term, ecological processes, three stages of man's notion of the universe, and theory of city growth. The next division of the chapter, "Ecology of Schools," deals with theory at a more intermediate level. Here,

literature relating to the ecology of schools, town planning, neighbourhood design, theories of school location, and recommended characteristics of school sites, is reviewed. The third part of the chapter is still more specific and to a considerable extent local. It is concerned with the ecology of schools in Alberta: statements of policy, rules of thumb, regulations, administrative decisions, and planning aspirations that contribute to the utilization of space for school purposes in urban and rural areas of the province. The chapter is concluded by a brief summary of main tendencies and trends in the theory of ecology of education.

2. ECOLOGY

The basic idea that there is competition for living space is largely attributable to Darwin. In stressing that organisms are related to one another in the struggle for existence, he provided the essential conceptual foundation for the rise of ecology. However, it was the German biologist, Haeckel, who in 1868 first used the term "ecology" and helped launch what might be called specifically "the science of ecology."[2] From this

---

[2] Amos H. Hawley, Human Ecology, A Theory of Community Structure (New York: The Ronald Press Company, 1950), pp. 4, 5, and 10.

beginning may be traced the development of "human ecology," usually considered a part of sociology, but also a concern of modern geography and a foundation field for such applied areas as town planning.

Some writers say that ecological processes are sub-social. The family, for instance, uses space to save time and energy, and not necessarily to relate itself to its fellowmen. People concentrate where their needs are met, and once they are located, social relationships develop, and communities are formed. These communities possess the basic institutions which make a common life possible. However, it is assumed, that though ecological processes are sub-social, forces of competitive selection operate within cultural controls.[3]

The ecological processes are specialized forms of the competitive process. These ecological processes are referred to as concentration, centralization, sub-centralization, segregation, invasion, and succession. When there is a marked population density at certain locations, the ecological process of concentration is evident. When certain basic types of institutions locate

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[3] Carl A. Dawson and Warner E. Gettys, An Introduction to Sociology, (New York: The Ronald Press Company, 1948), pp. 220 and 241.

at focal points of communication and transportation, there is centralization. Specialization occurs within the main centres, and sub-centralization develops when centres arise toward the periphery as a result of population moving to the suburbs. When a homogeneous grouping forms a cluster, it is referred to as segregation. If new types of institutions penetrate an occupied area and displace its institutions, invasion has taken place. While lower economic and cultural groups invade usually, this is not always what is found to happen. There may be occupational invasion, or the invasion may be physical only. If invasion results in complete displacement, the process of succession is said to have occurred.[4]

The ecological position has a bearing on social contacts and social interaction. Physical distances between units are marked by the ecological pattern of distribution, and they determine the direction of social contacts. "The institutions of a community come to take on a characteristic pattern of distribution."[5]

In the ecological frame the community is a spatial world of soil, climate, land uses, town plan, road pattern,

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[4] Ibid., pp. 215-19.

[5] Ibid., pp. 246, 251.

service area, population make-up, and service institutions.[6] Space relations play an important role, because territory is a major factor in giving unit character to the population. Space is necessary for the activities of any organization, and at the same time, it is an obstacle which must be overcome in establishing intergroup relationships. The interdependence of activities is important from an ecological point of view.[7]

Three stages of development in man's notion of the universe in relation to the ideas of space have been suggested, and these have been said to determine man's attitude toward environment. The first stage is called geocentric--the earth was the centre--and man did not go far. He planned from the outside inward, and built walled cities and closed courtyards. In the second stage, which is called heliocentric, the sun was the centre. There was an outburst of expansion, discoveries, inventions, scattered possessions of countries, and expanded towns with their walls losing their importance. The third stage, the present, is the expanding universe or oikumene. It is

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[6] Lloyd Allen Cook and Elaine Forsyth Cook, A Sociological Approach to Education, A Revision to Community Backgrounds to Education (New York: McGraw-Hill Book Company, Inc., 1950), p. 64.

[7] Otis Dudley Duncan and Leo F. Schnore, "Cultural, Behaviorial, and Ecological Perspectives in the Study of Social Organization," The American Journal of Sociology, LXV (September, 1959), 136.

marked by scientific adventure, the shrinking of the globe, cultural unity over large areas, and development of more living space.[8]

Theories of urban growth have been developed. Burgess advanced the concentric-zone theory where urban growth proceeds outward from the centre in a series of concentric circles, and each area thus marked has distinguishable characteristics. While topographic and other features can distort the pattern, and while this theory does not fit all cities, it is an interesting theory to consider when studying the ecology of any city.[9]

In the concentric zone patterns each zone is distinguished by certain features. The inner circle is occupied with the central business district. Outside this is the interstitial area where invasion and succession are taking place. Around the interstitial area workingmen's homes are located. In a circle outside the workingmen's homes, the high-class apartments and residential zone develop. Further out is the suburban

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[8] E. G. R. Taylor, "Introduction," Our World of the Air, by E. A. Gutkind (New York: Doubleday, 1952).

[9] Myles W. Rodehaver, William B. Axtell, and Richard E. Gross, The Sociology of the School (New York: Thomas Y. Crowell Company, 1957), pp. 67-69.

zone which is usually composed of distinct estates, heavy industry, and recreational development.[10]

According to Hoyt's sector theory, the growth of the city is axial, and business and residential areas grow along the chief transportation arteries which give the city a wedge-shaped appearance.[11] The sector pattern theory, developed on rental data, claims that rent distribution follows wedge-shaped patterns or sectors from the centre to the periphery, that one or more high rent areas reach from the centre to the outside.[12]

The multiple nuclei theory suggests that within the city there are smaller centres. Each centre exerts influence over certain kinds of activities in its territory. The degree of dominance depends upon communication and transportation. Social differences encourage development in separate physical areas, and sometimes the differences in these areas are quite marked, while at other times there is very little to distinguish them.

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[10] George A. Lundberg, Clarence C. Schrag, and Otto N. Larsen, Sociology (rev. ed.; New York: Harper and Brothers, Publishers, 1958), p. 152.

[11] Rodehaver, *et al*, *loc. cit.*

[12] Lundberg, Schrag, and Larsen, *op. cit.*, p. 154. These authors claim the sector theory needs further investigation to improve its predictive value.

Such areas are often referred to as natural areas and are scattered throughout some cities. The multiple nuclei theory is useful in describing patterns found in communities and in explaining their origin.[13]

Ecological areas may be classified as business, transitional, and residential. Congestion at the centre results in sub-centres at the periphery. The numerous transitional areas are caused by the modified use of land which may result in property deterioration. These areas with no consistent character are areas of personal and social disorganization. The residential areas are more or less homogeneous clusters, which vary in quality, with the better houses toward the outside of the city.

Residential areas are classified as areas of maximum and minimum choice. By maximum choice is meant the better type single-family dwellings located on lots of considerable size. They are located in a healthful, moral, safe, and quiet area with playgrounds. Zoning restrictions are in force. An area of minimum choice has multiple housing units--some substandard--cheap rent, poorly enforced zoning regulations, no guarantee against decline in property value, overcrowded housing, immoral enterprises, and inadequate playgrounds. Between these

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[13] Ibid.

two areas is an area with some advantages and some disadvantages.[14]

Ecological studies reveal distinctive relationships between spatial patterns and social conditions. Rodehaver, Axtell and Gross, in their discussion of variables by ecological areas have brought together the findings of several researchers. In summary these are: (1) Even though the people in a particular area may change, the social character of the area remains much the same. (The conclusion was that factors about the area, rather than the population itself, promote problem behavior such as juvenile delinquency.) (2) There is more mental disorder near the centre of the city. It is associated with the zone of transition and with slum areas. (3) Tuberculosis and syphilis are more prevalent in areas of low-standard living. (4) The family is unstable in the zone of transition and in the zone next to it, but is more stable further from the centre. (5) Parents in "better" areas show greater interest in their children's school activities and progress. (6) Community spirit usually increases with the desirability of the area. (7) Certain types of facilities seem to belong in certain areas: e.g. settlement houses and clubs for underprivileged are in

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[14] Rodehaver, *et al.*, *op. cit.*, p. 70.

areas of minimum choice; teen canteens are in middle-class areas; golf and country clubs are in "better" areas; and the more desirable schools are in the "better" areas.[15]

Long stated a theory which he called an "Ecology of Games."

> The local community can be usefully conceptualized as an ecology of games. In the territorial system a variety of games goes on: banking, newspaper publishing, contracting, manufacturing, etc. The games give structures, goals, roles, strategies, tactics, and publics to the players. Players in each game make use of players in the others for their particular purposes. A banker uses the politician, the newspaperman, or the contractor in his game and is, in turn, used by them in theirs. The interaction of the games produces unintended but systematically functional results for the ecology. An overall top leadership and social game provide a vague set of commonly shared values that promotes co-operation in the system though it does not provide a government.[16]

Although Long did not mention schools, his ecology of games could apply to them. The purchase of land for school sites, or the exchange of one site for another might be examples of these games.

The discussion of ecology and of the ecological processes has been in terms of society generally. In the next part of this chapter the ecology of education is dealt with more specifically.

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[15] Ibid., pp. 71-74.

[16] Norton E. Long, "The Local Community as an Ecology of Games," American Journal of Sociology, LXIV (November, 1958), 251.

3. ECOLOGY OF SCHOOLS

Ecology of schools is of significance to the educator as well as to the sociologist though, perhaps, in more direct and immediately practical ways. Not only does school ecology throw light on the school's functions and problems, but it is indispensible for predicting the rate and direction of future community growth, and for planning the size and location of new buildings. From the standpoint of the professional educator it might give some guidance in discipline problems, in teacher placement in natural areas of ethnic groups, and in curriculum planning in different types of residential areas.[17]

In the ecology of education one includes the ecology of schools. The location of a school contributes to its special problems. A slum school is taken as an example. The residents of the area lack a community spirit; equipment and buildings are poor; teachers are not as able; there is a lack of parental interest. By recognizing the physical and social characteristics of a school in a slum area, the administration can help the school personnel by co-operating with social agencies, by scheduling extra-curricular activities for the transient students, and

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[17] Rodehaver, _et_. _al_., _op_. _cit_., p. 82.

perhaps by having some activities which are occupationally oriented.[18]

Before ecology of schools in an urban centre can be considered specifically, some consideration must be given to town planning. It is a major problem in community organization to have the services, facilites, and people distributed "to provide maximum satisfaction to the group's needs and desires with the minimum expenditure of cost or energy."[19]

The neighbourhood design is used in planning some urban areas. Space is allocated for dwellings, garden space, schools, playing fields, a shopping centre, and a hall for communal activities, with the school and shopping planned as the focus of the neighbourhood. Industry has no place in the neighbourhood, but it may be located on the edge. Each element in the area must be within walking distance of the shopping centre and the main communal facilities.[20]

Neighbourhood design affects street patterns. The main street leads to the neighbourhood centres and to the

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[18] _Ibid_.

[19] Lundberg, Schrag, and Larsen, _op. cit._, p. 149.

[20] Frederick Gibberd, _Town Design_ (London: The Architectural Press, 1953), pp. 203-205.

main roads, and it tends to "swing about" with the physical features. In a flat area the main road has a gentle curve. Roads used to get from one area to another are broader than those used for access to houses and are planned not to pass through residential areas.[21]

If the neighbourhood pattern is based on the nursery school pattern where a population of 2,000 is needed to support a single class nursery school, there will be several sites for schools. The same thing happens if neighbourhood structure is based on primary school size. Then the problem of which site is to get extra school buildings arises.[22]

It is suggested that large school groups may be located between neighbourhoods and on one site. This could make a cultural centre where other community buildings, such as a library and health centre, could be located on the campus. This plan has weakness since it tends to divide classes, to have too many things together, and to have buildings inappropriate for children. On the other hand accommodation can be shared.[23]

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[21] Ibid., p. 207, 211.

[22] Ibid., p. 212.

[23] Ibid., p. 214.

In the planned community the provision for school plants includesarrangements for use by adults. This is particularly true of the small community where the schools have been the gathering places for public community affairs.

> Small cities without municipal auditoriums have generally found it cheaper and more natural to use the high school auditoriums than to erect a new building. They hold meetings in classrooms, banquets in school dining rooms, and bazaars in gymnasiums. They use school basketball floors and softball diamonds for church or city league teams.[24]

However, Riemer and Brussat attacked the idea of the neighbourhood as a uniting force. They claimed that the diversity of elementary schools is a negative influence on neighbourhoods. There are parochial schools, private schools, and specialist schools. The parochial school adds to the cohesiveness of some families, but it may be a divisive force in the neighbourhood. If the neighbourhood has a congregation in a sharply defined area, the church, not the school, becomes the focal point of the neighbourhood. If some children attend a private school, their parents do not focus interest on the public school of the neighbourhood. The composition of the population regarding religion, occupation, economic standing,

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[24] William W. Caudill, Toward Better School Design (New York: F. W. Dodge Corporation, 1954), p. 116.

and age might make the elementary school ineffective as a promoter of neighbourhood unity. Riemer and Brussat in writing about neighbourhoods concluded that "there is little evidence to suggest that the school should, in fact, be regarded as the focal institution in each neighbourhood. Such a conception bears no resemblance in its present role."[25]

Glass maintained that the neighbourhood when defined as a "distinct territorial group, distinct by virtue of the specific physical characteristics of its inhabitants" is easy to find, but when the neighbourhood is defined as "a territorial group the members of which meet on a common ground within their own area for primary social activities and for spontaneous and organized social contact" it rarely exists. The importance of proximity varies with different age and social groups. Mothers, children, and poor people tend to move in a smaller area. People like to go to centres where there is more of everything, and where they may pick and choose.[26]

The same writer considered the grading of neighbour-

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[25] Svend Riemer and William K. Brussat, "The Neighbourhood as a function of School and Childhood--A Critique of the Use of the Elementary School as the Focal Point in the Neighbourhood," Journal of Educational Sociology, XXV (September, 1951), 15.

[26] Ruth Glass, "The Structure of Neighbourhoods," The County Borough of Middlesbrough Survey and Plan, directed by Max Lock (Yorkshire: The Middlesbrough Corporation, [1946]), pp. 159-72.

hoods in terms of social rank, social homogeneity, institutional equipment, concentration of social activities, and neighbourhood integration. It was found that the higher the social rank the lower the population density. When grading neighbourhoods in terms of institutional equipment Glass said that as the social rank of a neighbourhood rises, the institutional rating deteriorates. Advocates of neighbourhood planning said that heterogeneity rather than homogeneity is likely to promote neighbourliness. Geographic isolation influences neighbourhood integration and concentration of social activities.[27]

Rowntree expressed some ideas about neighbourhoods which are similar to Riemer's and Brussat's views. Rowntree said that neighbourhoods are not necessarily neighbourly, that "schools do not influence the social life of their neighbourhoods," and that "schools do little towards producing neighbourhood cohesion." Denominational schools frequently are located next to the church, and the school buildings are used by the church for social functions.[28]

Neighbourhood units were incorporated into the Edmonton city planning. The average unit nearly fits the

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[27] Ibid., p. 159-72.

[28] Griselda Rowntree, "The Survey of Education," The County Borough of Middlesbrough Survey and Plan directed by Max Lock (Yorkshire: The Middlesbrough Corporation, [1946]), pp. 281-82.

Public School Board requirements for elementary schools. The neighbourhood unit was directed toward the maxim that no housewife had to walk more than one-quarter mile to shop, and no child had to walk more than one-quarter mile to elementary school. Junior high schools of the Public School District were near the focus of four adjacent neighbourhoods. Elementary schools of the Separate School District were located, usually, in similar places. At the district level Edmonton's plan was to have one large park of fifty to one hundred acres for each of six sectors. There were six high schools each with sites of fourteen to eighteen acres. To place schools adjacent to city park area seemed to be wise planning since it enabled the public, as well as the schools, to make greater use of all facilities.[29]

The selection of the school site has been discussed by several writers. The site is important to the school's community which has been said to be:

> . . . the service area of a given school. This may be a one-room school, a centralized school serving several sociological communities, a city elementary school serving one neighbourhood, a junior high school serving several neighbourhoods, or a senior high school serving a sector of the city.[30]

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[29] Noel Dant, "Edmonton: Practical Results of Planning Measures Since 1950," Community Planning Review, IV (1954), pp. 31-34.

[30] Professor B. Y. Card, mimeographed, n.d.

The recommendations of several writers and administrators for school sites are given in the following pages.

Sumption and Landes gave the ideal site for a school as the centre of the population. When selecting such a site future as well as present population is considered. In areas where children walk to school, the distance travelled is noted, while in areas where transportation is provided, the time required to make the journey is important. The maximum distance to walk for elementary school pupils is three-quarters of a mile, for junior high school pupils is one and one-half miles, for senior high school students is two miles, and for kindergarten and lower elementary school pupils is one-half mile. If travel is by bus, the maximum travel time for elementary school pupils is thirty minutes, and for secondary school students is one hour.[31]

In buying school land, natural and artificial boundaries are noted since they affect city growth. It is desirable to have the school located in a residential area, near a park, and in an area free from odors, gases, airfields, dust, noise, smoke, and traffic hazards.[32]

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[31] Merle R. Sumption and Jack L. Landes, Planning Functional School Buildings (New York: Harper and Brothers Publishers, 1957), p. 168.

[32] Caudill, op. cit., pp. 121-22; Rowntree, op. cit., p. 295; and Sumption and Landes, op. cit., p. 168.

Co-operative planning with community personnel is advisable.

> . . . far-sighted school boards have got together with city officials and local industrialists and business men with happier results. They have been able to figure possibly good future locations in advance and by purchasing in an undeveloped area at a time when prices were low, have saved the taxpayers a lot of money.[33]

The value of the land goes up with the presence of a school, and the school affects the land around it. The school in an outlying area of a city influences the direction of city growth.[34]

One writer advocated that suburban school villages should be set up where children from crowded city areas could be transported. The property would be cheaper than within the city; it would be more economical to operate with centralization; the school village could continue to operate even if the population shifted. The school village plan could be used in rural areas also.[35]

Over the years the amount of space which educators and others in charge have felt was required for schools did not remain constant. The area required seemed to vary with the philosophy of those in control of education at

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[33] Caudill, *loc. cit.*

[34] *Ibid.*

[35] Charles R. Colbert, "The School Village--Another Scheme for Solving the Site Problems of the City," *Toward Better School Design* by Caudill, *op. cit.*, pp. 130-32.

the time, with the use of the school site, and with the number of pupils enrolled at the school.

White, in writing about Middlesbrough, gave the following as recommended areas for schools. The primary and infant school site for 240 children requires two acres; a junior school for 320 children requires two acres; a playing field for 320 junior children requires three and one-half acres. Such a school requires a total of seven and one-half acres. Secondary school sites for three-form entry secondary school and playground require three acres, and the playing field requires fourteen acres, making a total of seventeen acres. Eighty children in a nursery class should have a site from two to three acres in area. Special schools for delicate, deaf, and mentally retarded children should have about ten and one-half acres. Enrolment would cause the area required to vary.[36]

Caudill suggested minimum sizes for sites. He said that the minimum size of the site for elementary schools is five acres plus one additional acre for each one hundred pupils of predicted ultimate maximum enrolment. For junior and senior high schools, the minimum size of the site is ten acres plus an additional one acre for each

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[36] J. Blancho White, "Planning Proposals for Education," The County Borough of Middlesbrough Survey and Plan, directed by Max Lock (Yorkshire: The Middlesbrough Corporation, [1946]), p. 297.

one hundred pupils of predicted ultimate maximum enrolment. In addition, the kind of outdoor educational program to be carried on must be kept in mind, and an estimate of the space required for building, drives, and parking must be considered. The city block is inadequate space for a school site.[37]

Sumption and Landes gave still other minimum sizes. For primary centres of kindergarten and grades one, two, and three with less than two hundred pupils, a minimum of three acres is required, while four acres are better. For elementary grades from one to six, one to eight, or four to eight, five acres is the minimum area required. However, six acres is a better area with one additional acre for each one hundred students as a minimum, while one additional acre for each seventy-five students is a still better minimum. The minimum required area for junior high schools for grades seven to eight, seven to nine, or seven to ten is ten acres with one additional acre for each one hundred pupils, while twelve acres and one additional acre for each fifty pupils is better. Senior high schools for grades ten to twelve, or eleven to fourteen require a minimum of twenty acres with one additional acre for each one hundred students. A better area is twenty-five acres with one

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[37] Caudill, op. cit., p. 126.

additional acre for each fifty students. It is usually better to acquire at least the minimum area, and then, if possible, to use public parks and playgrounds for additional area.[38]

The school includes space for plant and service facilities and for outdoor instructional and recreational areas. A good site includes provision for maximum safety of those at school, for economy of space usage, for functional relationship among facilities and site space, for minimum development expense, for flexibility to meet changing needs, for expansibility to serve larger numbers, and for attractiveness in overall appearance.[39]

A Cyclopedia of Education, published in 1919, states that with the school in the centre of the community it is a natural place for people to meet for community activities; it is used as an educational centre, as an evening recreational centre, and as a social centre. No mention is made of the size of the site.[40]

The recommendations for areas for school sites in the 1941 and the 1950 publications of *Encyclopedia of Educational Research* are very similar. According to the

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[38] Sumption and Landes, *op. cit.*, pp. 168-71.

[39] *Ibid.*, pp. 176-79.

[40] Paul Monroe (ed.), *A Cyclopedia of Education* (New York: The Macmillan Company, 1919), V, 260-61.

writers no high school site should be less than three acres for a modest building, and two acres of this space are needed for physical training. A minimum of five acres is required for five hundred pupils, while large schools require ten acres. If a school of five hundred pupils is to have a general athletic field and accommodation for spectators, it requires ten acres. A site of twelve to fifteen acres is more desirable.[41]

The National Council of School Construction proposed that an elementary school site requires five acres plus one acre for each one hundred pupils of ultimate enrolment, and a secondary school requires ten acres plus one acre for each one hundred pupils of ultimate enrolment.[42]

Holy and Arnold, in recommending areas for school sites, related the number of pupils and the use of the school. For 500 or fewer pupils a senior high school requires six acres, a junior high school requires five acres, and an elementary school requires three acres. For 501 to 1,000pupils, eight, six, and five acres are required for senior high school, for junior high school,

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[41] Walter Monroe (ed.), Encyclopedia of Educational Research (New York: The Macmillan Company, 1941), 1031; Encyclopedia of Educational Research, Revised Edition (New York: The Macmillan Company, 1950), 1102.

[42] Ibid., (1950).

and for elementary school respectively. For 1,001 to 1,500 pupils the requirements are twelve, ten, and eight acres for the same schools, and for over 1,500 pupils the senior high school requires fifteen acres, the junior high school requires twelve acres, and the elementary school requires ten acres.[43]

Still another writer, Keeble, said that the school requirements for neighbourhoods of 10,000 are one and one-half acres for six nursery schools (one-quarter acre for each), eleven and one-half acres for primary schools, thirteen acres for one mixed secondary modern school, or twelve acres for one boys' secondary school, and eleven and one-half acres for one girls' secondary school shared between two neighbourhoods. For a town of 60,000 population, one boys' grammar school requires fourteen and one-half acres, and one girls' grammar school requires fourteen acres, or two mixed grammar schools require fifteen and one-half acres each. One technical school for the town requires twelve acres.[44]

The literature reviewed indicates that the locations of schools and the size of school sites for different age

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[43] Monroe, op. cit., (1941), p. 1032; (1950), p. 1102.

[44] Lewis Keeble, Principles and Practice of Town and Country Planning (2nd ed.; London W. C. 2: The Estates Gazette, Ltd., 1959) pp. 180-81.

groups of pupils are covered by several writers. However, there is a lack of agreement on what is considered the required area for school sites. Some suggested requirements are summarized on tables to show the areas mentioned as desirable by two English writers and by several American writers. Table 2.1 shows areas of school sites suggested by two English writers. Since the number of pupils is not given in each, it is difficult to compare the two recommendations. There are three sets of suggested school site areas by American writers summarized on Table 2.2. Once again it is difficult to compare the suggested areas. If the minimums are considered, one can say that the writers do not agree on what should be the minimum area for school sites. Caudill and Sumption and Landes, writing about the same time, more nearly agree than either agrees with Holy and Arnold.

The ecology of schools, as discussed in Part 3, deals largely with schools outside Alberta. The discussion is continued in Part 4 with emphasis on the ecology of schools in Alberta.

4. ECOLOGY OF SCHOOLS IN ALBERTA

Part 4 is a summary of findings, in the literature reviewed, of ecology of schools in Alberta. Centralization of schools and problems of space relations resulting from

TABLE 2.1

SUGGESTED SCHOOL SITE AREAS IN ACRES
ENGLAND

J. Blancho White, 1946

Grade Level	Number of Children	Area of Site
Primary	560	7½
Secondary		17
Nursery	80	2-3
Special	50-100	10½

Neighbourhood of 10,000, Lewis Keeble, 1959

Grade Level	Total Area
Six Nursery schools, with ¼ acre each	1½
Primary schools	11½
Secondary modern, one mixed school	13

TABLE 2.2

SUGGESTED SCHOOL SITE AREAS IN ACRES
U. S. A.

Merle R. Sumption and Jack L. Landes, 1957

Grade Level	Minimum	Better	Additional Area	
			Minimum	Better
Primary Centre	3	4		
Elementary	5	6	1 for 100	1 for 75[*]
Junior High	10	12	1 for 100	1 for 50
Senior High	20	25	1 for 100	1 for 75

William W. Caudill, 1954

Grade Level	Area	Additional Area
Elementary	5	1 for each additional 100 pupils
High School	10	1 for each additional 100 pupils

Holy and Arnold, 1950

Grade Level	Number of Pupils			
	Less than 500	501 to 1,000	1001 to 1,500	Over 1,500
Elementary	3	5	8	10
Junior High	5	6	10	12
Senior High	6	8	12	15

[*] One additional acre for each 100 pupils is a minimum while one additional acre for each 75 pupils is a still better minimum.

centralization have concerned educators and administrators of school and community affairs.

The City of Edmonton has some areas developed according to the neighbourhood plan. Dant said that, at the local level, Edmonton has from four to five acres for each public elementary school, two acres for community league purposes, and two acres for pure park or passive recreation.[45]

In the rural schools of Alberta the standards for school site size have varied over the years. In a survey in 1940 of eighty rural schools, it was found that forty-one schools had less than three acres, twenty-seven had three acres, and twelve had more than three acres in their sites.[46] Robinson writing on "The Average School in the Camrose Inspectorate" said that the area of the site was two acres clear of weeds and underbrush.[47]

In 1949 Holloway, in an address on "The Selection and Acquisition of School Sites," made recommendations which were still used as guides in 1962 by the Department

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[45] Dant, _op_. _cit_., p. 38.

[46] Jonas Christian Jonason, "A Survey of School Grounds, School Plant and Teacherage Conditions in Eighty Schools Situated in Central and Northern Alberta" (unpublished Master of Arts thesis, University of Alberta, Edmonton, 1940), pp. 10-12.

[47] Alberta Department of Education, _Annual Report_ (Edmonton: King's Printer, 1937), p. 69.

of Education. He suggested that for the first fifty pupils the site should contain three acres, and that there should be one and one-half acres for every additional fifty pupils or fraction thereof. The maximum size of the site should be thirteen and one-half acres. In choosing a site, future possible enrolments needed to be considered. Rural school population was not expected to increase, but urban school population had continually required more and bigger schools.[48]

The Battle River Planning Commission, formed in 1960 and initially serving the Cities of Camrose and Wetaskiwin, the Towns of Ponoka and Rimbey, the Counties of Ponoka and Wetaskiwin, and the Municipal District of Camrose, had a guide for the size of school sites and for the number of elementary school sites.[49] It recommended that the school site should have one acre for each classroom with not less than two-thirds of an acre per classroom as a minimum. In an urban area, one elementary school per quarter section of land, and one separate

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[48] J. H. Holloway, "The Selection and Acquisition of School Sites" (paper read at a refresher course in school administration, University of Alberta, May 31 to June 2, 1949), mimeographed; p. 2.

[49] Department of Municipal Affairs of the Province of Alberta, Annual Report (Edmonton: Queen's Printer, 1962), p. xi.

school per section was considered a reasonable way to plan.[50]

The Alberta Department of Municipal Affairs had a rule-of-thumb transferred from the Department of Education which influenced its planners. It allowed three acres for the first fifty students and one-half acre for every fifty students thereafter. Older students required more ground area than young children.[51]

The size of the requirements for school sites were being written for the Alberta Department of Education in 1962. A committee made up of representatives from the Alberta Teachers' Association, the Alberta School Trustees' Association, and the Department of Education was in charge. School boards were contacted for suggestions. If the recommendations of the committee were accepted, a minimum of five acres for every site plus one acre for every fifty pupils, or major portion thereof, would be required. A number of years ago three acres was the required area. It was felt in 1962 that it was better to have too large an area rather than one too small, and

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[50] Interview, Mr. R. Maslin, Battle River Planning Commission, Wetaskiwin, February 13, 1962.

[51] Interview, drafting personnel, Alberta Department of Municipal Affairs, February 5, 1962.

that composite high schools should have from twenty to thirty acres.[52]

Table 2.3 is a summary of some school site requirements as reported in Part 4. If one considers the attendance in a classroom to be thirty pupils, some relationship can be found among the opinions summarized. The Director of Town Planning for Alberta and the Battle River Planning Commission recommended approximately one acre per classroom. Dant, in 1954, and the Oldman River District Planning Commission recommended considerably less than one acre per classroom. While not included on the table, the proposed recommendations for school sites by the Department were less than one acre per classroom for a school with more than five classrooms. The recommendations of the Department of Municipal Affairs was also less than one acre per classroom if the site had several classrooms.

The review of the literature on areas of school sites seemed to indicate that the writers had minimum requirements but that they varied for reasons not easily ascertained here.

In Alberta the choice of the school site is left to the school board. In the past, schools were located in

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[52] Interview, A. B. Wetter, Alberta Department of Education, Edmonton, February 5, 1962.

TABLE 2.3

SUGGESTED SCHOOL SITE AREAS IN ACRES ALBERTA

Director of Town Planning, 1949

Number of Pupils	Area of Site
Up to 50	3 plus 1½ for each additional 50 pupils
Maximum size	13½

Battle River Planning Commission, 1962

1 acre per classroom; a minimum of 2/3 acres per classroom

Noel Dant, 1954

School	Area of Site
Public elementary school	4 or 5
Separate elementary school	3
High school	14 to 18

The Oldman River District Planning Commission, 1961

School	Number of Pupils	Area of Site
Elementary pupils	180	3.
	360	4.75
	540	6.50
High school pupils	300	9.
	360	10.50
	540	13.50
	720	19.

the centre of rural school districts, but with bus transportation for students this is no longer important in rural areas. The location of the school site is of greater importance in urban areas, but even there some cities provide conveyance of students.[53]

Certain characteristics of the site, other than area and location in relation to student population, are considered when selecting a site for a school. The surface of the school site requires considerable flat land with a gentle slope to provide drainage. If it is not as flat as desired, some unevenness can be eliminated with a bulldozer. Wooded areas, if not too heavily wooded, can be cleared without a great expense. Light loam over a porous subsoil provides good drainage and supports a grass cover. If school sewage disposal is by means of a septic tank, it is important that the subsoil provide drainage. The school site needs to be reached by good roads with front and rear approaches. A supply of adequate, safe drinking water must be available. A source of fuel is a necessity, and electric power is desirable.[54]

The shape of the school site is important. If it is square or rectangular, it is easier to describe for the Land

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[53] Wetter, op. cit.

[54] Holloway, op. cit., p. 5.

Titles Office registration. Moreover, the survey of its boundaries is less expensive than it is for an irregular shape.[55]

The location of the school site in relation to roads, parks, and other public property should be considered. If the school site is a rectangular parcel adjacent to a main road, it is recommended to have the width run parallel to the highway, and its length run back from it. The school building should be set back at least seventy feet from the property line. If the school can be located by a park, playground, community centre, or a public library, the school will be able to make use of these facilities.[56]

As early as the 1920's there was some centralization of schools in Alberta. Two or more school districts in some areas formed consolidated school districts. The children from each district attended school at the same site. A few rural high schools were formed also--another form of centralization.[57]

In 1936 centralization of schools in Alberta was

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[55] Ibid.

[56] Ibid., p. 6.

[57] Dominion Bureau of Statistics, Education Division, The Organization and Administration of Public School in Canada, Second Edition (Ottawa: The Queen's Printer and Controller of Stationery, 1960), p. 46,50.

increased by the formation of school divisions. Eleven school divisions were established in 1937.[58] By 1943 the only rural schools outside of the school divisions were those in National Parks, in some mining centres, and in a very few isolated districts.[59] At first towns and villages usually did not join the school divisions, but as time passed more and more became a part of the large school divisions.[60]

During this period of centralization, the position of the one-room school was changing. From 1935-36 to 1957-58 the number of one-room schools decreased from 2,980 to384.[61] While a few were being built, many were moved from their original sites to "centres" in the school divisions.[62] Thus centralization of school buildings and personnel began in the school divisions. By 1944 only fifteen Inspector-Superintendents reported no centralization.[63]

Centralization brought a need for conveying students to the schools or providing dormitory accommodation near

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[58] Alberta Department of Education, op. cit., 1937.

[59] Ibid., 1944, p. 56.

[60] Ibid., 1946, p. 36; 1948, p. 32; 1950, p. 27; 1951, p. 95.

[61] Dominion Bureau of Statistics, op. cit., p. 46.

[62] Alberta Department of Education, op. cit., 1950, p. 20.

[63] Ibid., 1945, p. 49.

the school site. Early vanning of students met with many problems. By 1943 there were thirty-one divisions that provided regular van service for conveying children to and from school.[64] With greater co-operation with municipal authorities, the roads were improved gradually.[65] All but two school divisions operated conveyances in 1948, and the routes varied from five to over seventy-five miles. Most boards tried to limit the routes to a maximum of fifteen miles one way and from ten to forty-five minutes in time.[66] By 1950 the van routes were from four to forty-five miles for a single round trip, and the time required was from a few minutes to eighty or ninety twice a day. Forty to forty-five minutes were regarded as not an unreasonable time for the journey.[67] The trend was toward the use of Class A school buses for forty or more passengers, owned by the school division. An effort was made to provide service to the gate of the rural pupil's home, and to limit the average round trip to not more than one hour.[68]

The dormitory seemed to be a solution to the problem

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[64] _Ibid_., 1944, p. 61.

[65] _Ibid_., 1948, p. 26.

[66] _Ibid_., 1949, p. 27.

[67] _Ibid_., 1959, p. 22.

[68] _Ibid_., 1959, p. 22; Dominion Bureau of Statistics, _op_. _cit_., p. 47.

of students attending centralized schools where van service was not operating.[69] They were popular in northern parts of Alberta where road conditions were uncertain.[70] By 1946 twenty-six divisions had dormitories, and by 1950 about one-half of the school divisions had dormitories. However, by that time it was felt that, because of the van routes in operation, no more dormitories would be built.[71] By 1959 the number of dormitories in operation had decreased from thirty to six.[72]

Distance to school was of concern to teachers as well as pupils. Many school divisions recognized the problem. Teacherages were built on some rural school sites. Later, with centralization, houses were provided near the schools for teachers to rent. It was a common sight in several school divisions to see houses for teachers concentrated near the school site.

Centralization of school districts did not meet fully the problems of education in isolated areas. Corres-

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[69] Alberta Department of Education, _op_. _cit_., 1944, p. 96.

[70] _Ibid_., 1946, p. 31.

[71] _Ibid_., 1951, p. 21.

[72] Dominion Bureau of Statistics, _op_. _cit_., p. 47.

pondence lessons were, therefore, made available by the Alberta Department of Education at the elementary, junior high, and senior high school levels. While there was a decrease reported in 1960 in elementary school enrolment in correspondence lessons, there was an increase in junior and senior high school enrolment.[73]

There were two additional means of meeting some of the problems created for education by distance. Radio and, more recently, television school broadcasts brought the teacher to the pupil.[74] Related to these means of education was the use of films and recordings in the classroom.

With changes in curricula, values, and economic conditions, demands for more space in the schools arose. Rooms for science laboratories, for commercial subjects, and for libraries, a stage for drama and music, and a gymnasium and assembly-hall began to be planned in school construction.[75] In the 1960's the desire for space for special classes and for vocational schools became very apparent. All this construction meant that new and

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[73] Alberta Department of Education, 1960, _op_. _cit_., p. 96.

[74] _Ibid_.

[75] _Ibid._, 1949. p. 41.

enlarged sites had to be found.

Separate School Districts, with scattered school populations, had problems with the distance pupils lived from schools. This problem with space existed in Separate School Districts in both rural and urban areas.[76]

With regard to the school in the community, three points of view were taken by educators. First, according to the traditional view, the school is separated from the community and teaches mental and vocational skills. Second, the school's place is considered to be a model of the community, and the student lives in a "simplified model of the community." Third, the school is a community school, and it serves the entire community.[77]

A description of the school as a model of the community was written in 1942 by the Alberta Chief Superintendent of Schools, H. C. Newland:

> The modern rural school is, indeed, a community centre, where children live together during school hours, working at a variety of interesting things. In so living they are learning. Many of the school projects or activities can be carried from the school into the home or community. Gone are the days when the school can be shut off from the life of the community.
>
> The pattern of work in an Alberta elementary-grade classroom of the new type will not accommodate

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[76] Dant, op. cit., pp. 33-34.

[77] Robert J. Havigurst and Bernice L. Neugarten, Society and Education (Boston: Allyn and Bacon, Inc., 1957), pp. 199-212. The quotation is from p. 202.

> itself to fixed rows of desks, with every pupil in a fixed position. Even rural schools will have movable seats and desks for the pupils of Grades I to VI, or better still, small chairs and tables, so that activities may be provided in which the pupils move about, consult one another, and work in small groups or committees. There will also be room for a sand-table, or a work-bench and tools, for a drawing table perhaps, and for lots of things that never used to appear in a school room . . . . In some of the newer rural schools, there is an extra workroom, besides the regular classroom.[78]

The community school concept is suggested in the following quotation:

> All reports say that the school is properly concerned with the life of its community. Some would make the school the centre of community life, with a curriculum flexible enough to be related to the special needs of the community by means of school projects.
>
> Speaking of the school as a community centre, some of the reports recommend that the buildings, equipment and grounds be made available to adults for education and recreation; . . .[79]

Another aspect of school ecology appears in studies of the relationship between school achievement and van transportation of students. Two researches conducted at the University of Alberta suggest that there seemed to be some difference in achievement noted with certain subjects

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[78] Alberta Department of Education, _op_. _cit_., 1942, pp. 14-15.

[79] _Ibid_., 1943, p. 15.

and at certain grade levels.[80]

Still another phase of school ecology is the ecology of the classroom itself. Waller wrote perceptively about the location of pupils in the college classroom. He stated that if students in a large classroom are free to choose their position, that the front row contains largely the overdependent type with a few extremely zealous students, that the rebellious type of student sits in the back row, that those who use responsive techniques for getting the teacher's attention usually distribute themselves midway in the class, and that the timid pupils sit by the wall.[81]

To conclude the survey of literature dealing with ecology of schools, brief comment is made on diffusion of ideas and trends that are suggested in the literature.

From the literature reviewed it was difficult to follow diffusion to Alberta of ideas in ecology of schools,

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[80] Marion Holman, "A Study of Attendance and Achievement in Arithmetic, Reading, and Language of Vanned and Unvanned Pupils in Certain Centralized Schools of Alberta" (unpublished Master of Education thesis, University of Alberta, Edmonton, 1959), pp. x-xi; Stephen M. Hunka, "The Effects of Bus Transportation on Pupil Achievement" (unpublished Master of Education thesis, University of Alberta, Edmonton, 1957), pp. xi-xii.

[81] Willard Waller, The Sociology of Teaching (New York: John Wiley and Sons, Inc., 1932), pp. 161-62.

yet there is some evidence of diffusion. For example, two American writers mentioned a three acre minimum for school sites. The same figure occurred in site areas recommended in Alberta where many Alberta rural school sites were three acres. Another example, neighbourhood planning was mentioned by both English and Alberta writers. It may be hypothesized that these similarities indicate diffusion of American and English standards and practices to Alberta. It is doubtful if these similarities represent indigenous invention when publications and personnel, both in education and town planning, frequently came to Alberta from the United States of America or the United Kingdom.

The literature suggests some probable trends in Alberta. With the centralization of schools, and with the enlargement of school curricula to include wider areas of study, the trend seems to be toward larger schools built on larger sites. To meet the problems of the journey to school, the trend has been toward larger and better school buses travelling on better roads, and toward a decrease in in the use of school dormitories. There seems to be a trend to the development of television and radio to meet some of the problems of space. Whether these trends will continue, remains to be seen in the future. There was considerable evidence in recent years of town planning in Alberta. This trend suggests that planning for schools

is being recognized as necessary and will be given consideration in town plans.

5. SUMMARY

Ecology

1. Ecology deals with the competition for space and with the distribution in space of individuals and of species in their competitive struggle for existence. The ecological processes--concentration, centralization, sub-centralization, segregation, invasion, and succession--are specialized forms of the competitive process. The ecological position has a bearing on social contacts and social interaction.

2. Three stages of development in man's notion of the universe--geocentric, heliocentric, and the present, the expanding universe of oikumene--have been said to determine man's attitude toward his environment.

3. Burgess's concentric-zone theory, Hoyt's sector theory, and the multiple nuclei theory have been used to explain urban growth.

4. Ecological areas may be classified as business, transitional, and residential. The characteristics of each of these ecological areas may vary widely according to property value, social character, and living standards.

Ecology of Schools

1. The ecology of schools, of significance to the

educator, is associated with town planning and with neighbourhood design. While the neighbourhood is designed with the school and shopping centre as its focus, all writers do not agree that the neighbourhood is a uniting force and that the school actually is a focal institution.

2. The location of the school site is important to future as well as present population. Recommended maximum distances varied for elementary school pupils from one-quarter to three-quarters mile, and for junior high school pupils from one to one and one-half miles. For senior high schools the recommended maximum distance to travel to school was two miles. The maximum travel time, if travel was by bus, was thirty minutes for elementary school pupils and one hour for secondary school pupils. The location of the school affects city growth and land values and land use around the school. Suburban school villages can be a solution to the problem of space for a school when a site is unavailable within the settled urban area.

3. The area desirable for a school site seemed to vary with the philosophy of the educator, with the use of the school site, and with the number of pupils enrolled at the school. It was difficult to compare the recommendations in the literature since the areas

mentioned were determined by different means.

4. While several recommended school site sizes had been made for Alberta schools, the Battle River Planning Commission had a simple guide. It recommended that the school site should have one acre per classroom and not less than two-thirds of an acre per classroom as a minimum. In urban centres one elementary school per one-quarter section and one separate school per section of land were suggested. Other writers recommended less than one acre per classroom for the school site.

Ecological Aspects of Education in Alberta

1. Additional characteristics of the school site were considered. A fairly level, well drained, and easily accessible site, with a supply of water, fuel, and electric power was desirable. If the site was adjacent to a park, playground, community centre, or public library, greater use could be made of these facilities by the school.

2. Centralization of schools in Alberta began as early as the 1920's. Consolidated school districts and rural high schools were the first forms of centralization. Establishment of school divisions began in 1936. The centralization of school buildings and personnel continued to 1962.

3. Centralization of schools in rural areas brought a need for student conveyance or for dormitory accommodation. Bus transportation on improved roads and in improved and larger buses was used for increasing numbers of pupils as time passed. Dormitories were popular for a time where road conditions were uncertain, but by 1959 only six dormitories were in operation.

4. With centralization of schools came centralization of teaching personnel. Houses for teachers were built on or near some divisional school sites.

5. Still other means were used to help to meet the problems of space to education in isolated areas. Correspondence lessons, and radio and television school broadcasts were made available by the Alberta Department of Education to schools throughout the province.

6. With changes in curricula, values, and economic conditions came demands for more space within the schools and for new and enlarged school sites.

7. The literature suggested some trends in Alberta. With the centralization of school and with the enlargement of school curricula to include wider areas of study, the trend seemed to be toward larger schools built on larger sites than in the past. Larger and better school buses travelling on improved roads were used to meet the problems of the journey to school. While dormitories were

used in areas where road conditions were uncertain, the trend seemed to be toward a definite decrease in their use. The radio and television school broadcasts seemed to face a probable increase in use in the future to overcome some problems of space. Town planning, with plans for schools as a part of the urban plan, appeared to be increasingly recognized and approved.

8. Literature concerned with ecology of education, an underdeveloped area of study, seemed to show some evidence of diffusion of ideas in ecology of schools.

9. At least three points of view have been held by educators regarding the school in the community--the traditional view, the school as a model of the community, and the community school.

The literature reviewed in this chapter was used throughout the study as a foundation for selecting phenomena to be observed and analyzed, for interpreting the results of the analysis, and as a help for drawing conclusions and stating implications. While ecological theory was presented as general, intermediate, and local in character, it was used to interpret findings, to draw conclusions, and to state implications by moving from specific, to intermediate, and to a limited extent to general theory.

PART II. THE ECOLOGY OF SCHOOL SITES

CHAPTER III

THE LAND-USE SYSTEM

1. INTRODUCTION

The general land-use system of the City of Camrose in 1961-1962 is described in Chapter III. This description includes residential zoning regulations, residential ranking, survey systems, traffic arteries, and some theories of urban development applied to Camrose. The areas formed by natural and artificial boundaries are described, and the locations of the schools in these areas are given.

At any given time the land-use system is the product of land use over a period of time. (Map 1, an aerial photograph, shows land use in Camrose in 1961.) Knowledge of stages of city growth is needed to understand the development of school facilities. To provide this information a brief description of the location and of the urban development of Camrose appears in the first part of Chapter III.

The data were obtained from four sources chiefly. A map which was produced by the Battle River District Planning Commission and shown as Map 2 on page 73

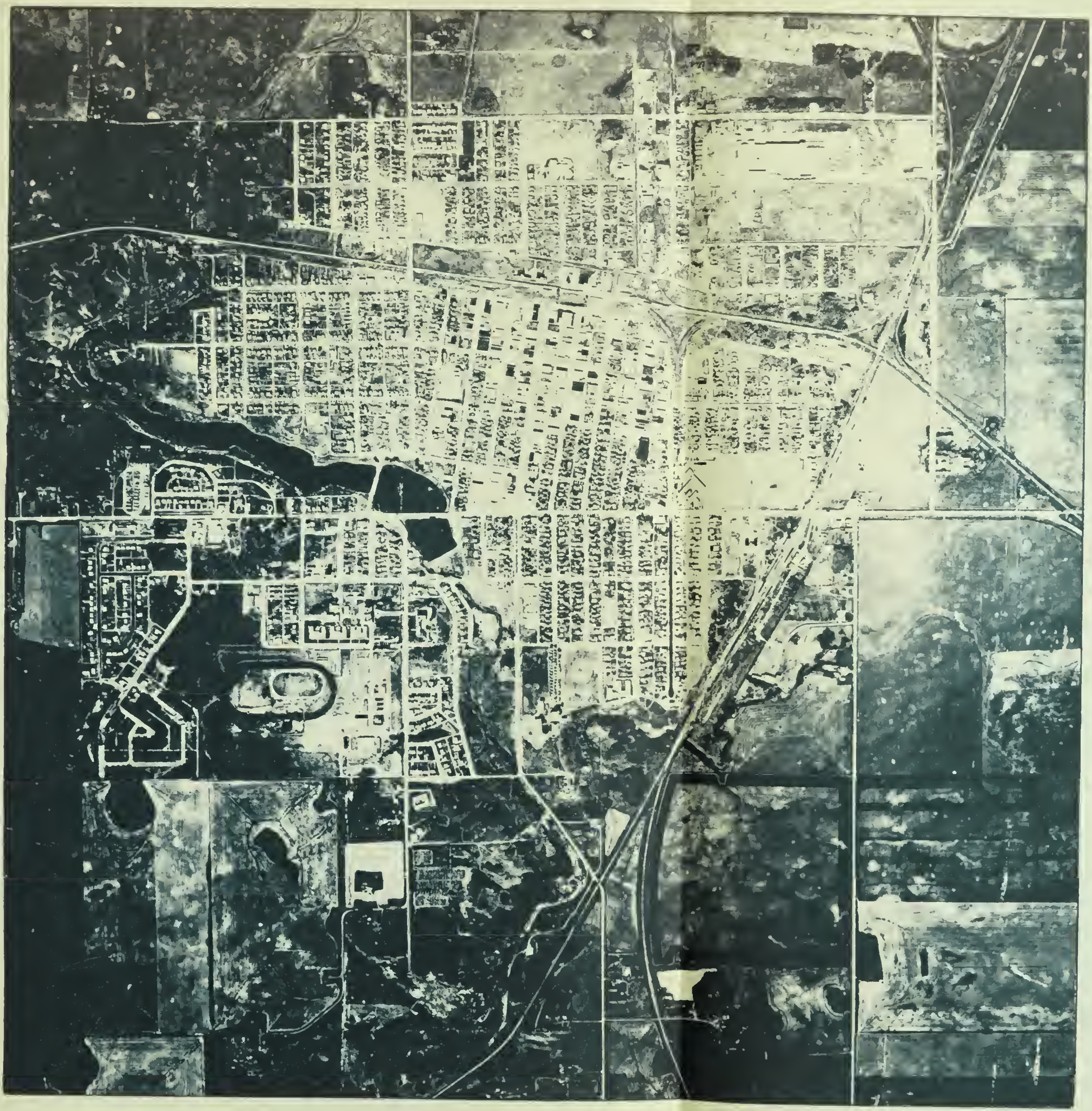

photo – battle river regional planning commission

MAP I CAMROSE ALBERTA Aerial Photograph 1961

provided a large part of the data.[1] Information from the map was augmented by Interim Development By-law No. 813, by Zoning Schedule By-law No. 649, and by the researcher's familiarity with the local scene.[2] While the map shows areas on the periphery zoned for use which have not been developed, and while some areas are zoned to indicate that they are or will be areas in transition, the map is reasonably accurate for use in the description of the land-use system in the spring of 1962. Information for the description of the location and of urban development of Camrose came largely from provincial publications.

2. LOCATION OF CAMROSE

Camrose, with an elevation of 2,430 feet, is located in the central part of the Province of Alberta at fifty-three degrees one minute North Latitude and one hundred twelve degrees fifty minutes West Longitude.[3] The site is on the banks of a small stream known as Stoney Creek and of Mirror Lake which is formed by a dam in Stoney

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[1] Map City of Camrose Interim Development By-law No. 813, Battle River District Planning Commission, Wetaskiwin, Alberta, April, 1962.

[2] Zoning Schedule Interim Development By-law No. 813, City of Camrose.

[3] Alberta Department of Industry and Development, Survey of Camrose Revised May, 1961 (Edmonton: 1961), p. 1

Creek. To the south of the city the banks of this creek become steep, while within and to the north of the city the creek banks permit fairly easy road and railway crossing of the stream. The Battle River runs through a deep valley a few miles to the south of Camrose.

Camrose has a humid, continental, cool summer climate. The mean summer temperature is fifty-three degrees Fahrenheit, and the mean winter temperature is eighteen degrees Fahrenheit. Extremes in temperatures are experienced with ranges from forty or more degrees below zero in the winter to eighty or more degrees above zero in the summer not uncommon. With the average rainfall for a year at 12.10 inches, the average snowfall at 45.8 inches, and the average total precipitation at 16.2 inches, droughts are rare.[4]

Central Alberta, where Camrose is located, is a mid-latitude grassland with chernozemic soil and often is referred to as a parkland. A large part of the rural area around Camrose is arable. A fairly good quality of wheat can be grown, but mixed farming is most desirable.

The Camrose district has some coal and oil reserves.

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[4] Ibid., p. 1.

Sub-bituminous coal is secured from a strip mine five miles to the east of the city. Oil wells are located to the north and to the south of Camrose.[5]

Camrose, a trade city, is located at the centre of converging routes of travel. Canadian National Railway lines run from Camrose to Edmonton, Camrose to Vegreville, Camrose to Tofield, Camrose to Alliance, Camrose to Calgary via Alix, and Camrose to Calgary via Stettler. A Canadian Pacific Railway line from Edmonton to Winnipeg goes via Camrose. Highway 13, passing through the city, is a route for motor traffic from Edmonton to Saskatoon. Highway 21, connecting Edmonton and Calgary, is located five miles west of Camrose. This means that Canadian National Railways run northwest, north, northeast, southeast, and south--the last direction by two routes. The Canadian Pacific Railway runs east and west from the city. One hard-surfaced provincial highway runs east and west through the city, while another provincial highway runs north and south five miles to the west of Camrose. Good gravelled roads from all directions provide additional access to the city.[6]

The City of Camrose, located twenty-six miles east

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[5] Ibid., p. 2.

[6] Ibid., p. 21.

of Wetaskiwin and about forty-five miles southeast of Edmonton, has an extensive trading area. Within this trading area which reaches twenty-five miles on the north, eighteen miles on the west, thirty-five miles on the south, and 120 miles on the east there was a population of 60,000 in 1961.[7]

In addition to being a trade centre, Camrose has some industrial development. A steel pipe mill, a seed cleaning plant, two dairies, a flour and feed mill, as well as some other smaller industries are established within or near the city.

In summary, Camrose, a small trade city in western Canada, is located on Stoney Creek in a humid continental, cool summer climate. The surrounding countryside is arable parkland which is suitable for mixed farming. Oil and coal reserves are located near the city. Small industries are located within the city. Canadian National and Canadian Pacific Railways, two provincial highways, and several gravelled roads provide access to Camrose from its trading area.

3. URBAN DEVELOPMENT OF CAMROSE

Camrose grew from a hamlet to a city in fifty years.

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[7] *Loc. cit.*

The City of Camrose was originally known as the Hamlet of Sparling. On May 4, 1905 it was incorporated as the Village of Sparling, and on December 11, 1906 it was incorporated as the Town of Camrose. On January 1, 1955, Camrose received city status.[8]

Urban growth was related to school growth. The first school with one classroom in a church building was opened on July 31, 1905, soon after the settlement was incorporated as a village. At the time that the Town of Camrose was incorporated there were two churches used as classrooms. On May 24, 1907, soon after the incorporation of the settlement as a town, a four-room brick school was opened, and high school classes were begun in the fall of the same year.[9] While Camrose had town status, three private schools and a provincial normal school were built, and the public school system expanded. The first separate school was opened in the urban centre after Camrose was incorporated as a city.[10] Since that time, the Public

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[8] Ibid., p. 2.

[9] Alberta Department of Economic Affairs, Economic Survey Town of Camrose (Edmonton: 1949) p. 4.

[10] According to Section 17 of the Alberta Act, 1905, and the School Act of the Province of Alberta Separate School Districts may be established in Alberta.

"Provision is made in the School Act for a religious minority in any school district, whether Protestant or Roman Catholic, to establish a separate school district. . . . Separate school boards have the same rights and obligations as public school boards. The property of all those of the

and Separate School Districts enlarged their facilities. Also, one private school opened a junior college which was affiliated with the University of Alberta. Proposed building plans in 1962 pointed to further development of educational facilities. The relationship between urban and school growth is examined further in Chapter IV.

With urban growth came local planning. In 1929 and 1930 Camrose was invited to send representatives to town planning meetings arranged by the Director of Town Planning for the Province of Alberta. By 1931 maps of the Town of Camrose were being completed by the provincial Director of Town Planning.[11]

In November, 1955, the Provincial Planning Advisory Board of the Province of Alberta, at the request of the

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[11] Town of Camrose Council Meeting No. 18, November 4, 1929; April 28, 1930; No. 14, August 17, 1931. Hereafter the minutes of the Camrose Council Meetings will be referred to as C.C.M.

Footnote (10) continued from previous page.

minority faith is assessable for the support of the separate school district and all children of parents of such faith must attend the separate school . . . all persons who are not declared separate school supporters are public school supporters.

"All separate schools are subject to departmental regulations . . . as if they were public school districts." Quoted from Dominion Bureau of Statistics, Education Division, Research Section. The Organization and Administration of Public Schools in Canada. 2nd ed. Ottawa: The Queen's Printer and Controller of Stationery, 1960. pp. 49-50.

Town of Camrose presented a planning report for Camrose which was prepared by the Town and Rural Planning Branch of the Department of Municipal Affairs. Camrose had experienced rapid growth and economic expansion in the postwar years. The local government, through by-laws and decisions of the town council, had regulated some of the physical development and land-use changes that came with the town's expansion. However, the town council recognized that many of its problems with land-use were related to the largely unplanned city growth. They, therefore, requested a long-term general plan for the physical development of the urban area.[12]

The Battle River District Planning Commission was formed in 1960. The Cities of Camrose and Wetaskiwin, the Towns of Ponoka and Rimbey, the Counties of Ponoka and Wetaskiwin, and the Municipal District of Camrose comprised the initial membership of this commission.[13] With its office in Wetaskiwin, the Commission advised the City of Camrose in matters of physical expansion and land use.

Population growth in the urban settlement of Camrose

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[12] Alberta Department of Municipal Affairs, Town and Rural Planning Branch, Camrose Planning Report (Edmonton: 1955), p. 1.

[13] Alberta Department of Municipal Affairs, Annual Report (Edmonton: Queen's Printer, 1962), p. xi.

is shown in Figure 1. In 1906, the year that Camrose was incorporated as a town, the population was 412 persons. In five years the population had increased to 1,586. From 1911 to 1931 the population increase over each five-year interval was from one hundred to two hundred fifty approximately, while during the period from 1931 to 1936 there was almost no change in the population of the town. Figures from 1936 to 1946 indicate an increase in population of seven hundred four. From 1946 to 1956 the population almost doubled. In 1955, with a population of 5,739, Camrose received city status. By 1961 the population was nearly seven thousand. From 1906 to 1961, a period of fifty-five years, the population of Camrose grew from 412 to 6,924, a seventeen-fold increase.[14]

In summary, it can be seen that the urban development of Camrose was characterized by an initial, relatively short boom period (1905-1911), a long period of slow but steady growth (1911-1946), and since 1946, a fifteen-year surge of rapid growth and expansion which in 1962 showed no signs of abating. The community's institutions tended to reflect these growth periods. Schools developed from

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[14] Alberta Department of Industries and Labour, Alberta Facts and Figures (Edmonton: King's Printer, 1950), p. 29; Alberta Department of Municipal Affairs, op. cit., 1952, p. 31; 1957, 1958, 1963, p. 1.

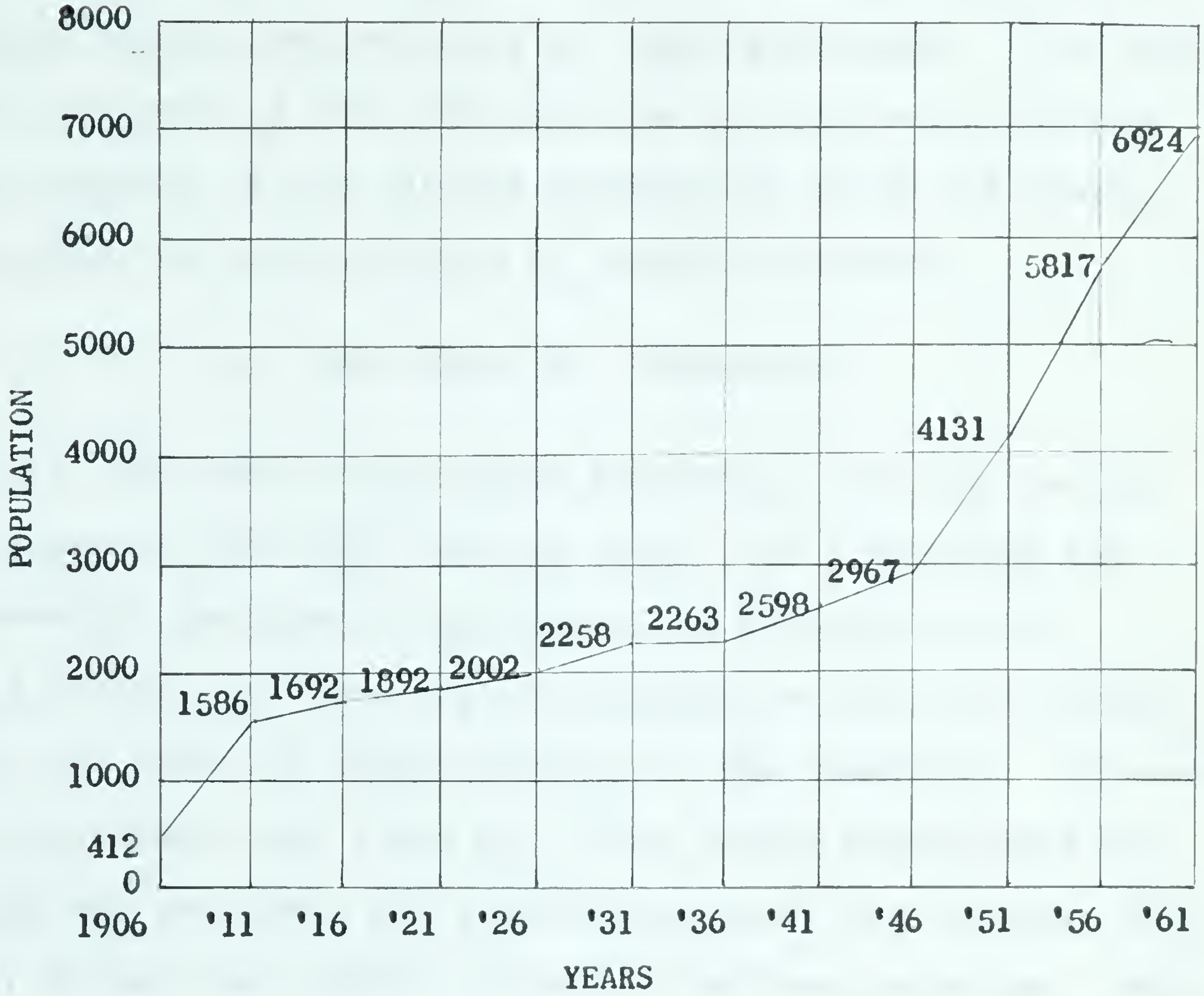

Figure 1. Population Growth in Camrose*

*Department of Industries and Labour, Government of Alberta *Alberta Facts and Figures* Bureau of Statistics (Edmonton: King's Printer, 1950), p. 29; Department of Municipal Affairs, Province of Alberta, *Annual Report* (Edmonton: Queen's Printer), 1952, p. 31; 1958, p. 1; 1963, p. 1.

one room to multi-room and from multi-room to multi-system. Town planning evolved from an incidental to a major concern and activity of local government. The land-use patterns of 1961-1962 were to a considerable extent the product of the various adaptations which had characterized the three periods of community growth.

4. LAND USE IN 1961-1962

The description which follows of the land use in Camrose in 1961-1962 has two aims: (1) presenting the essential details of land use in an ecological way; (2) finding the best way of dividing the city into areas for the study of school ecology in the community. In order to accomplish the first aim, city zoning regulations in 1962 are outlined, and residential areas are ranked. Survey systems and traffic arteries are then described. Next, the land use of Camrose is considered in relation to the theories of urban development. The second aim is accomplished by dividing the city into six areas. These city areas are essential tools for analyzing spatial relationships affecting schools in the community. They, therefore, are described in some detail. For reading this part of the chapter Maps 2 and 3 are continuously needed for reference.

Residential Zoning Regulations

In 1961-1962 residential areas in Camrose were zoned in a manner which reflected both the past growth of Camrose

and the kinds of buildings built during the three stages of growth, and the current standards of buildings and the projection of these standards into the future. Four zones, "R1", "R2", "R3", and "R4" were recognized. R1 was the low-density, high-quality residential area. The standards required a site of seven thousand square feet and a minimum floor area of one thousand two hundred square feet for a one storey dwelling, of one thousand five hundred square feet for a one and one-half storey dwelling, and of one thousand eight hundred square feet for a two storey dwelling. R2 was also low density but medium quality. Regulations permitted single family dwelling units with minimum floor area of six hundred eighty square feet for a one bedroom unit plus one hundred twenty square feet for each additional bedroom provided. Zone R3 was characterized by still higher density and few quality controls. Any type of dwelling was permitted provided that the floor space did not exceed three-fifths of the site area. In the case of row housing some variation in the ratio of site area to dwelling unit area was allowed. Zone R4 was for high density housing. Regulations permitted any type of dwelling but required that the floor space must not exceed nine-tenths of the site area. In the case of both R3 and R4 zones the minimum floor area for each dwelling unit in a single family residence or in a duplex was four hundred eighty square feet for a one bedroom unit plus one hundred the two types of buildings which formed the largest [illegible] of growth, and the largest concentration of [illegible] percentage of these [illegible] 1917, 1920, [illegible] were predominant. [illegible] low-density, high-quality [illegible] requires [illegible] floor area of [illegible] the [illegible] foot [illegible] Moreover [illegible] ing. [illegible] tions [illegible] single family [illegible] floor area [illegible] sections [illegible] additional [illegible] still [illegible] of [illegible] ill [illegible] of [illegible] dwelling [illegible] family [illegible] the [illegible] tains [illegible] rooms [illegible] single family [illegible] eight [illegible] twenty square feet for each additional bedroom. In row housing it was eight hundred square feet, and in apartments it was four hundred eighty square feet. The building regulations for each zone were codified in a city by-law.[16] They represented the legal order for the use of space for residential purposes in Camrose. This order is illustrated on Map 2 where the four residential areas are shown.

Residential Ranking

While the zoning map indicates the legal or approved order for housing development, as Camrose residents have competed over time for houses in terms of ability to pay and housing taste, there arose within the city a pattern of housing reflecting quality as well as density. This quality dimension of housing was recognized by the building inspector as he enforced the building code.[17] Using four quality categories the houses of Camrose were ranked. The researcher found that the housing development in the city had a spatial pattern related to quality. The lowest quality housing, corresponding to Class 4 (C4) of the building inspector, was found concentrated to the north of the Canadian Pacific Railway in the northeast quadrant of

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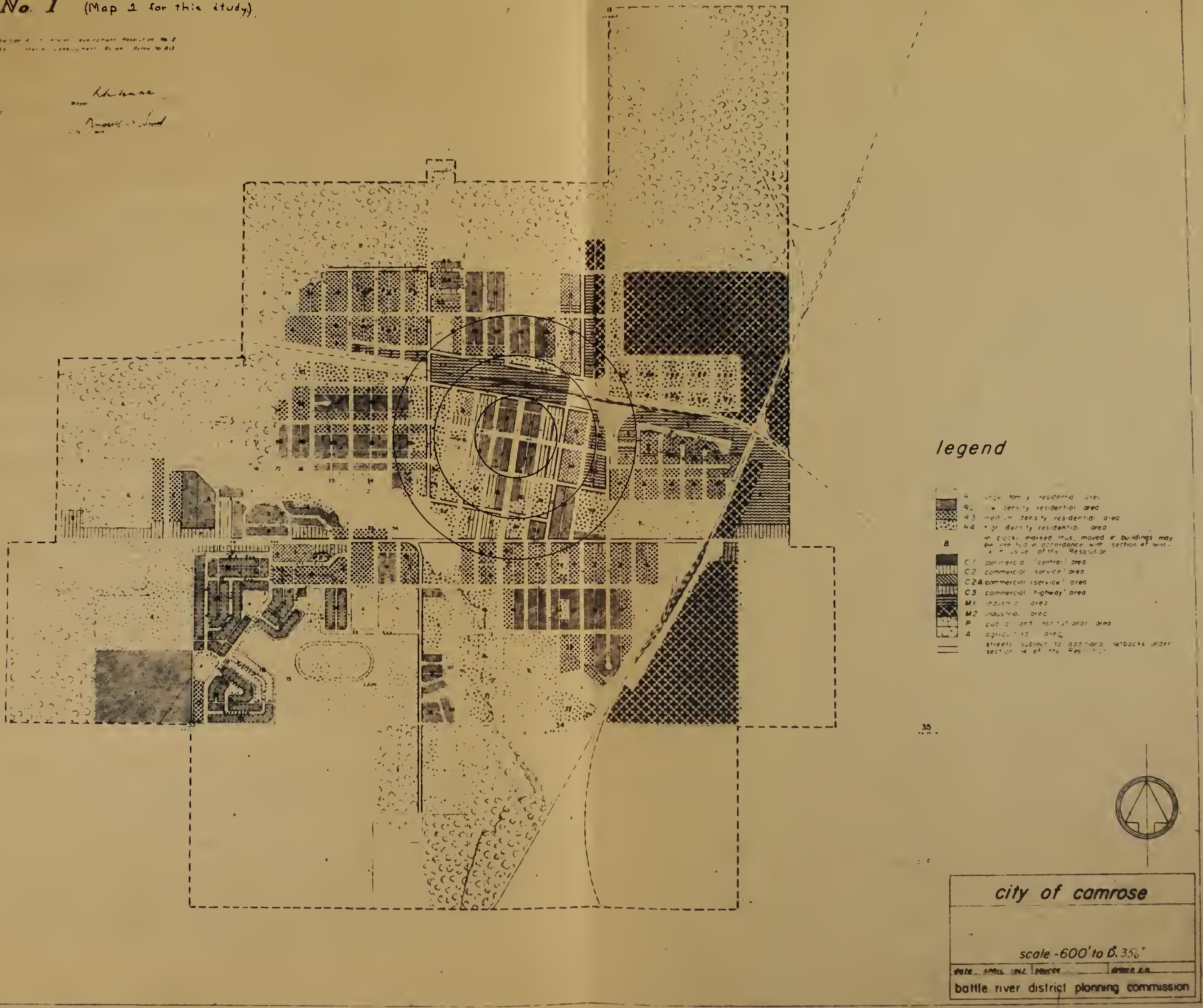
[16] Zoning Schedule, op. cit., pp. 4-5.

[17] Interview, J. Findlater, Building Inspector, City of Camrose, May, 1962.

MAP No. 1 (Map 2 for this study)

[illegible]


legend
R1 single family residential area
R2 low density residential area
R3 medium density residential area
R4 high density residential area
B in blocks marked thus, moved in buildings may be erected in accordance with section 47 (m) of the Resolution
C1 commercial 'central' area
C2 commercial 'service' area
C2A commercial 'service' area
C3 commercial 'highway' area
M1 industrial area
M2 industrial area
P public and institutional area
A agricultural area
streets subject to additional setbacks under section 14 of the Resolution
35
34
city of camrose
scale - 600' to 0.356"
date april 1962
battle river district planning commission

Map 2

the city. The next lowest quality housing, Class 3 (C3),was concentrated in almost all the remaining residential area to the north of the Canadian Pacific Railway, and in the area to the north and east of the Camrose High School. Residences in the south and west parts of the city were classified largely as Class 1 (C1) or Class 2 (C2).[18] These residential class areas are shown on Map 3.

Survey Systems

Two systems of survey in Camrose are evident on Map 2. The oldest part of the city and much of the area developed since 1945 were laid out in gridiron survey of streets and avenues. Since 1954 variations from gridiron survey occurred in the new southwest part of the city, known as Mount Pleasant, and in the residential area to the west side of Stoney Creek and to the south of Mirror Lake where there are marked differences in contour. A few crescents were built in other parts of the city.

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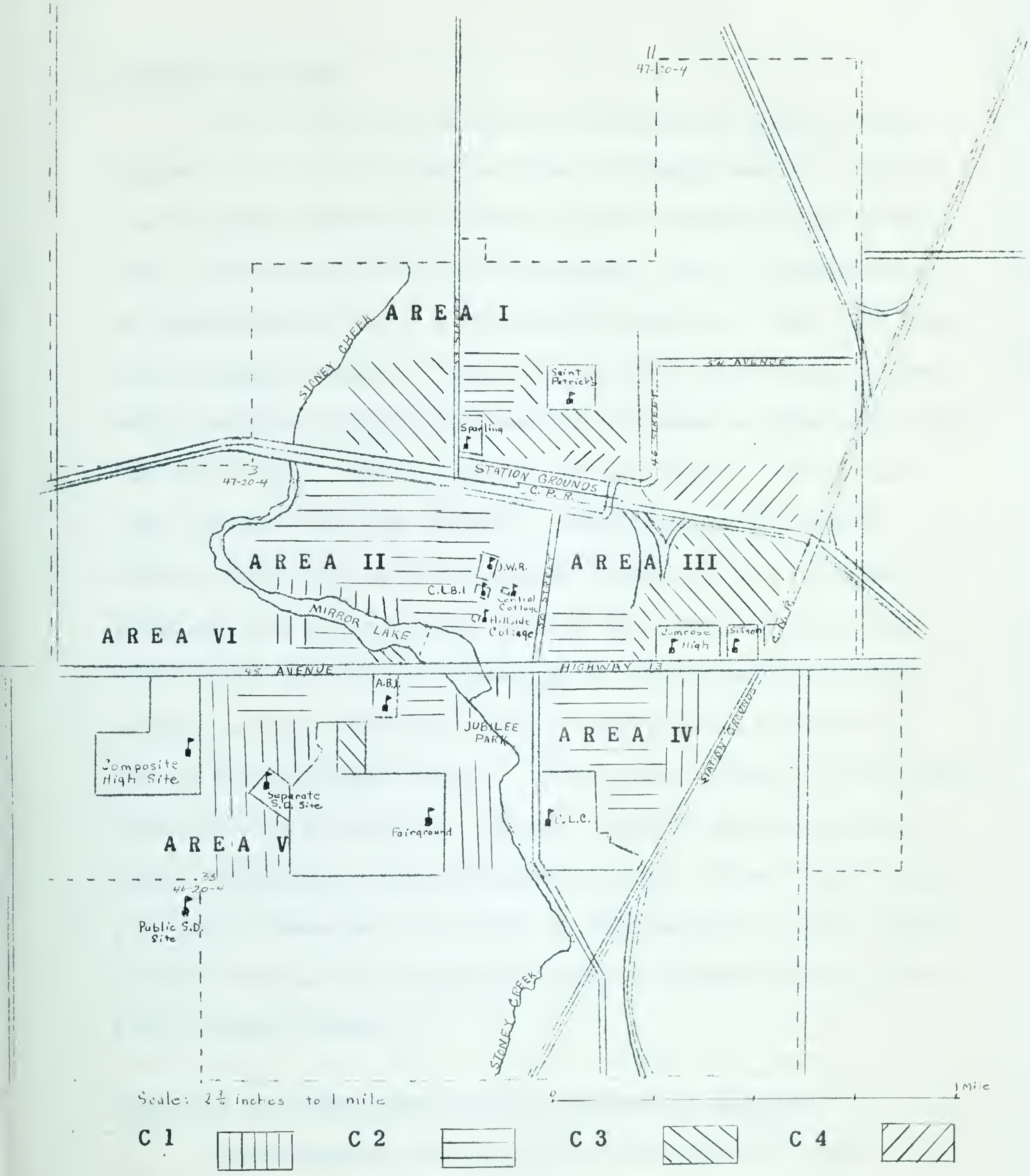
[18] Zoning Schedule By-law No. 649, City of Camrose, June, 1960.

Class 1 residences had one dwelling unit only, had at least 1,000 square feet in floor area, and were new construction only. Class 2 residences had no more than two dwelling units one of which had at least 800 square feet floor area and were new construction only. Class 3 residences, no more than two dwelling units with a minimum of 600 square feet for one of the dwelling units, were new in construction or "moved in." Class 4 residences were new construction or "moved in" with one dwelling unit of 400 square feet minimum floor area.



Map 3. City areas, city area boundaries, traffic routes, school sites, and residential classification in 1961-1962.

Traffic Arteries

The traffic arteries in Camrose are shown on Map 3. Highway 13, on a Correction Line through Camrose, crossed the Canadian National Railway at the eastern edge of the city. Within the city this highway, once a thoroughfare of moderate use and a busy traffic route in 1962, followed Forty-eighth Avenue. Traffic from the rural area to the south entered the city on municipal roads on the east edge, the west edge, and the centre of the city. The latter road led to Fiftieth Street. Traffic from the north entered the city on Fifty-third Street or the "Kingman Highway" and Fifty-fourth Avenue and Forty-sixth Street. There were two street crossings on the Canadian Pacific Railway within the city, one on Fifty-third Street and one on Forty-eighth Street. The chief bridge across Stoney Creek was on Highway 13. Other vehicle bridges were on Forty-seventh and Forty-fourth Avenues. Some foot bridges permitted crossing the creek in Jubilee Park, and a former vehicle bridge provided foot passage across Mirror Lake at Fifty-fourth Street.

Theories of Urban Development Applied to Camrose

The land-use pattern of Camrose in 1962 can be understood more fully by use of some of the concepts and theories related to the ecology of urban areas. There is,

for instance, some evidence of development according to the concentric circle theory. This is illustrated on Map 2 where circles 600, 1,200, and 1,800 feet in radius have been drawn arbitrarily with the centre of the city being placed at Fiftieth Street and Fiftieth Avenue. These circles represent approximately Zone 1, the central district; Zone 2, the zone in transition; Zone 3, area of working men's homes; and Zone 4; the well-lighted area of the Burgess theory.

Zone 1 is the centre of the city, the commercial area. It seems to be moving into Zone 2 on the eastern side which is shown as legally zoned for service commercial area. Within the second zone is a considerable area marked for high density residential purposes. In 1962 this area was largely an old residential part of the city and destined to become a zone in transition. The third zone encompasses industrial area in the east and part of the city zoned for high density residential development. In the third zone it is seen that a large sector is set apart for medium density and low density residential development. The third zone, the 1,800 foot radius circle, encompasses most of the town that was developed before 1945.

While the area outside Zone 3, that is, outside the third circle, is mixed industrial, institutional, residential and public areas according to the 1962 zoning map,

the distribution of medium and single family residential areas outside the circle indicates the equivalent of a Zone 4. Single family and low density areas are in the south and west parts while medium density and high density residential areas are to the east and north parts of the city, outside Zone 3. Additional medium density residential area parallels the south of Highway 13 and another is to the east of Camrose Lutheran College. It is noteworthy that in the area outside Zone 3, are found ten of the fourteen school sites of the community, six of the fourteen churches, the three hospitals, the two homes for aged persons, the cemetery, the exhibition grounds, the golf course, and park areas.

The preceding attempt to indicate major zones of community development facilitates an examination of invasion in the 1962 land-use pattern. The commercial area in the centre of the city was expanding, that is, Zone 1 was pushing over into the present Zone 2 as shown by the circles. Though not evident on Map 2, three former church sites had been taken by the commercial area and vacant lots had been filled by business establishments. A new commercial area had invaded the former residential and vacant areas on Fiftieth and Fifty-first Streets for one block to the north of Forty-eighth Avenue. Areas for high-density residential area near the centre of the city

were occupied in 1962 almost entirely by old houses which were once single-family dwellings. Many of these houses had already been converted to multi-family dwellings by 1962.

The undeveloped part of the city and the surrounding rural district was perhaps the greatest area being invaded. Most of this development was residential. institutional, and industrial. Map 3 shows four school sites, which had been selected since 1957, on the periphery--one to the north and three to the southwest part of the city. Saint Patrick's School, operated by the Camrose Separate School District, was on the north edge of the city. The site of a new academic and vocational high school to be built by the Camrose Public School District, a site reserved by the Public School District for an elementary school, and a site purchased by the Separate School District for an elementary school, were on the southwest edge of the city.

In addition to the concentric circle theory of urban development, the sector theory, multiple nuclei theory, and ribbon development have been advanced to explain urban growth. There seemed to be a lack of sector development in Camrose. The multiple nuclei theory did not appear to hold unless it was to the north of the Canadian Pacific Railway. Scattered ribbon commercial

area had developed along Highway 13 or Forty-eighth Avenue. In 1962 this commercial area was occupied largely by filling stations, grocery stores, motels, and drive-in lunch vendors. Residential areas zoned for medium density parallelled part of the south side of the highway.

In the small community--approximately two miles by one and one-quarter miles--it seemed that while the land-use pattern could be indicated in terms of the zoning map, quality of housing, and to some extent according to the Burgess theory of concentric circle development, this was not sufficient to facilitate later analysis in the study. Examination of what appeared to be the areas of the city as divided by main arteries of transportation and natural barriers was essential.

City Areas In Camrose

Natural and artificial boundaries divided Camrose into six well defined geographic subdivisions which were not characterized by distinctive cultural attributes. These subdivisions, shown on Map 3, are described in detail in succeeding pages to permit the reader to form a distinctive picture of the unique characteristics of each. Thus, as each city area is described, much of the theoretical perspective on ecology that has been developed will begin to come into a clearer focus.

For the purposes of this study the subdivisions are named Areas I, II, III, IV, V, and VI. Area I is north, Area II is west-central, Area III is east-central, Area IV is southeast, Area V is southwest, and Area VI is extreme west Camrose. The number of each city area has no significance other than to distinguish the subdivisions from other areas of the city. No attempt is made in this study to define these city areas as "natural" areas.[19]

Area I. That part of the city to the north of the Canadian Pacific Railway was designated Area I or North Camrose. Stoney Creek was the west boundary for Area I while the Canadian National Railway acted as the east boundary. To the north of Fifty-fourth Avenue there was little city development.

Area I had a small commercial district comprised of a small grocery store, a second-hand shop, and a filling station located on Forty-eighth Street and Fifty-first A Avenue. Another small grocery store was located in the

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[19] Natural areas are". . . areas which have their own particular kinds of buildings . . . their own institutional adjustments, and natural selection of population elements." The area may be marked by natural barriers and land values. Each area is a symbiotic unit of the city as a whole, according to

Carl A. Dawson and Warner E. Gettys, An Introduction to Sociology (New York: The Ronald Press Company, 1948), pp. 220-21.

residential area on Fifty-third Street.

A major part of the industrial area of the city was in Area I. Stock yards, bulk oil stations, a creamery and dairy plant, and a large steel plant were located to the east of the Saint Patrick's School site. A strip of land running parallel to the Canadian Pacific Railway was classified as industrial district. The developed part of this latter area was occupied by light industry.

Low, medium, and high density residential areas were located in Area I. Many of the residences located between Fifty-third Avenue and the Canadian Pacific Railway, and between Fifty-second Street and Forty-seventh Street were old and of low quality. The residences in the east part of Area I provided the lowest standard of housing available in the city. To the west of the Saint Patrick's School and to the north of the Sparling School was a new residential development. However, most of the houses in Area I ranked either as 3 or 4 in the city's housing classification system described earlier.

Area I had one church and two school buildings within its boundaries. The church, a new building erected by the Church of the Nazarene, was on Fifty-third Avenue and Fifty-second Street. The Sparling School, an elementary and junior high school operated by the Public School

District, was on Fifty-third Street and Fifty-second Avenue. The Saint Patrick's School, operated by the Separate School District, was located on Fifty-third Avenue and Forty-ninth Street.

Park and playground space in Area I was not plentiful. The Kinsmen's Club had a small playground located to the southwest of the steel plant site on Forty-sixth Street and Fifty-second Avenue. The Lions' Club provided an open skating rink on Fifty-second Avenue and Fifty-first Street.

Area I was considered by many in the past as the least desirable part of the city in which to live. It provided housing for many years for those who could not afford houses equipped with running water and sewers. The northeast section of the area was the home of several families of mixed white and Indian ancestry. This district was referred to by some as "Mocassin Flats," while the entire area was "North of the Tracks" to many.

Since 1950 Area I showed considerable progress. Additional sewer and water mains were laid; two school buildings, a creamery and milk processing plant, a steel pipe mill, and several new residences were built. Streets, sidewalks, and curbs were constructed.

Briefly, Area I was an industrial and residential part of the city to the north of the Canadian Pacific Railway. During the early history of Camrose it was a

residential area of minimum choice parallelling the railway. During the 1950's the residential area, providing working class homes largely, and the industrial area invaded unoccupied space to the west, north, and east. There were two schools and one church built since 1950 on formerly unoccupied city space and agricultural area. Very little park and playground space was reserved in Area I.

Area II. To the west of Fiftieth Street, to the south of the Canadian Pacific Railway, and to the north and east of Mirror Lake and Stoney Creek was the section of the city referred to in this study as Area II or west-central Camrose.

Part of the chief commercial district of the city was within Area II. It was approximately three blocks long and from one to three blocks wide with the widest part near the Canadian Pacific Railway.

Area II was zoned for all the types of residential districts in the city. The single family residential area was along the north side of Mirror Lake, while a part zoned for high density residential area parallelled the Canadian Pacific Railway. West of the commercial area, an area zoned for high density residential housing was occupied largely in 1962 by old residences, some of which were converted to rooming houses and to multiple family

dwellings. To the west of Fifty-fourth Street most of the residences had been built since 1945. The houses were ranked as Class 2 except for a few Class 1 homes along Mirror Lake.

There were four schools located in Area II. The John W. Russell School, located in the south part of the block between Fifty-second and Fifty-second A Streets and north of Forty-ninth Avenue, was used for some elementary school grades and for Grades VII and VIII. The Central Cottage School on Fifty-second Street and Forty-ninth Avenue was used for Grades I and II. The Hillside Cottage School, which was one block south of the John W. Russell School and on Fifty-second A Street, was used for Grades II, III, and IV. These schools were operated by the Public School District. The fourth school, on a site directly to the south of the John W. Russell School site, was a private residential school--the Canadian Lutheran Bible Institute.

Area II had one of the school offices located on its eastern boundary. The office of the Public School District occupied part of a business building on Fiftieth Street and south of Forty-ninth Avenue.

There were five churches located in Area II. Two of these churches were built between 1950 and 1960, and one church was moved to a new site in the same area during

the same period. The Evangelical Lutheran Church on Fifty-third Street and Fiftieth Avenue, and the Messiah Lutheran Church on Fiftieth Street and Forty-eighth A Avenue were new buildings, while the Augustina Lutheran Church was moved from the site of the Evangelical Lutheran Church to a new site at Fifty-third Street and Forty-eighth A Avenue. The Roman Catholic Church, located at Fifty-first Street and Forty-eighth A Avenue, and the Pentacostal Church, located at Fifty-second A street and Fiftieth Avenue, had been used for many years.

Some sections of Area II were set aside for playground and for park use. The Kinsmen's Club equipped a playground on Fifty-sixth Street and Forty-ninth Avenue for small children. Adjacent to the playground was an outdoor skating rink. The Victoria Golf Course was located at the west end of Fiftieth Avenue. While most of the golf course was located on the west side of Stoney Creek, the club house was in Area II. To the southeast of the golf course and west of Fifty-ninth Street an open area was developed by the Kinsmen's Club for a ball park. Along Stoney Creek and Mirror Lake some land was reserved for park use.

To summarize, the west downtown and central district, Area II, was a commercial and residential area with the old part of the city lying to the east of Fifty-fourth Street.

There were four schools and five churches in the area of early development, while the parks and playgrounds were in space on the west side of Area II. The commercial area was invading residential area on its west, and the residential area had invaded open space to the west of Fifty-third Street after 1945. While Area II provided homes for the working class, and for business and professional personnel, the west part of Area II could be described as an area of maximum residential choice in the city.

Area III. Area III, or East Central Camrose, lay between the Canadian Pacific Railway and Highway 13, and Fiftieth Street and the Canadian National Railway. Like the other two areas described, Area III contained a considerable section of the original town site.

Some of Area III was used for commercial and industrial purposes. The commercial section, between two and three blocks in length, extended eastward to the industrial area along a Canadian Pacific Railway siding on Forty-seventh Street. Space used for industrial purposes extended along the Canadian Pacific Railway to the Canadian National Railway on the east edge of the city.

Residences in Area III varied in age and in value. Many of the residences were old, some had been, and others

still were, good buildings and in good condition. Some older houses had been converted to multiple family dwellings. Several of the latter were in the space designated as high density residential area on Map 2. Houses to the west of Forty-sixth Street were ranked as Class 2.

To the east of Forty-sixth Street and to the north of the school sites was a residential district somewhat different from that to the west of the schools. It was ranked as Class 3. Some older houses were scattered throughout this residential area, several houses had been moved from other sites, many houses were small, and several small new houses had been built on formerly vacant lots. On Map 2 the area is rated as medium density residential. To one familiar with the city the area seemed to be one for low income families, for some old people, and for some immigrant groups. As may be noted from Map 2, the east residential district of Area III compared with most of the residential district of Area I.

While there were two school buildings in Area III, for this study reference is made to them as three schools. One Public School District building, located on Forty-sixth Street and Forty-eighth Avenue, had a senior high school and a junior high school administered by different principals, and for this reason the school is discussed

as if it were two schools. Four rooms in the junior high school were occupied by Grades I, II, and III classes. Located on a site to the east of the Public School District junior and senior high schools was the Sifton School for elementary and junior high school pupils from the Camrose School Division. Garages for the school buses were located to the east of the school site.

One school office, that of the Camrose School Division, and its repair garage were located in Area III on Forty-ninth Street and north of Fiftieth Avenue. This office and its garage were the headquarters of the Camrose School Division.

There were five church sites in Area III. The United Church of Canada and the First Baptist Church were at the corners of Fiftieth Street and Forty-eighth A Avenue, and across Fiftieth Street from the Messiah Lutheran Church and within one-half block of the Roman Catholic Church which were in Area II. The Faith Baptist Church was at the corner of Forty-eighth Street and Forty-ninth Avenue. These churches were on the edge of the commercial and residential areas. The Mission Covenant Church was on the west side of Forty-sixth Street and across the street from the Camrose High School. The corner of Forty-second Street and Forty-ninth Avenue

was the site of the Greek Catholic Church, a former rural school building moved to the site in the city and enlarged and renovated. The latter church was located on the east edge of a Class 3 and R3 residential area.

With the exception of the school playground area, there was little park and playground space in Area III. The city ice arena was on Forty-ninth Avenue and east of Forty-seventh Street. A Kinsmen's Club playground was adjacent to the arena site. Another playground equipped by the same club was located on Forty-fourth Street and Fifty-first Avenue. The curling rink was on Fiftieth Avenue, one block to the north of the arena. The two rinks were within one and two blocks of the Camrose High School.

The east downtown and central district, Area III, was a commercial, industrial, and residential area with the old part of the city located to the west of Forty-sixth Street. There were four of the five churches in Area III located in the old part of the city, but the two school sites were to the east of Forty-sixth Street. Very little park and playground space was reserved. The commercial district was invading residential area on its east side. Working class homes had invaded the east part of Area III, while homes of business and professional people were located largely in the old southwest part of Area III.

Area IV. Area IV, or Southeast Camrose, was that part of the city lying to the south of Highway 13, to the east of Stoney Creek, and to the west of the Canadian National Railway. A large section of the district was a new development since World War II.

The commercial and industrial areas in Area IV were not shown on Map 2. The industrial district consisted of a narrow band of development along the Canadian National Railway. The one large industry was a feed mill. The commercial area consisted of one filling station south of the Camrose High School site, a small grocery on the corner of Forty-sixth Street and Forty-eighth Avenue, and a bake shop and grocery on Forty-eighth Avenue and Fiftieth Street. The latter was in the old part of the city, while the other two mentioned were constructed in a part of the city where building had taken place since 1945.

The residences in Area IV varied widely in age. Those dwellings located between the Camrose Lutheran College site and Forty-eighth Avenue included most of the oldest ones in Area IV. Some new homes to the east and to the west of these and on vacant lots among the older homes were built since 1945. Map 2 classifies the area along Forty-eighth Avenue as medium density residential area. Here some large old homes had been

divided into suites. Other medium density residential areas were near the Camrose Lutheran College and Bethany Hospital and Home. All houses in Area IV were ranked according to the building inspector's classification as Class 1 and Class 2 residences.

The Lutheran Church had two institutions in Area IV. The Camrose Lutheran Junior College was a private residential and day school for senior high school grades and for junior college classes. To the east of the junior college site and operated by the Lutheran Church was a home and chronic hospital for aged persons. Open property to the south of the hospital and east of the college in and across a ravine was owned by the college.

Area IV had one church within its boundaries. The Anglican Church was located one-half block south of Forty-eighth Avenue on Fiftieth Street.

Some sites were reserved for public area in Area IV. There were two park sites between Forty-seventh and Forty-eighth Streets completely surrounded by dwelling houses. One of the sites was equipped with playground apparatus by the Kinsmen's Club. In the winter the city provided a small open skating rink for children of the district on the same site. The second was undeveloped. The Rotary Club maintained a small picnic area at the corner of Forty-seventh

Street and Forty-eighth Avenue. The one swimming pool in the city was located on the corner of Fiftieth Street and Forty-seventh Avenue. To the south of the swimming pool was a Kinsmen's Club playground and a tennis court. Jubilee Park, a city maintained picnic and park area along Stoney Creek, was across Fiftieth Street to the west. While the developed section of the park area did not extend to Forty-fourth Avenue, the entire area along the creek is marked for public and institutional area on Map 2.

While Area IV had no local names in common use of which the researcher was aware, some high school and normal school students in the 1930's referred to the old part of the area as "Snob Hill." However, in 1962 the same area no longer appeared to merit this title as housing in some other residential areas surpassed it in quality and desirability.

The southeast part of the city, Area IV, was largely residential. Old residences, located between the Camrose Lutheran College site and Forty-eighth Street, and other residences, built since 1945, provided homes for business and professional personnel and for some of the working class. Most of the residential district could be classified as area of maximum or near maximum choice. The Lutheran Church had a large site for a school and an adjoining site for a hospital and home for aged persons. Space within and on the

west side of Area IV was reserved for parks and playgrounds.

Area V. Area V, Southwest Camrose, was bounded on the north by Highway 13, on the east by Stoney Creek, and on the south and west by rural area. Except for the northeast corner of the area, the buildings in Area V were new. During the time when the provincial normal school was operated in Camrose, reference was made frequently to the developed area as the "Normal Hill" since it was here that the normal school was located.

Some ribbon commercial development was scattered along Highway 13 from Mirror Lake to Sixty-second Street. This was the only commercial development in the entire area.

Most residences in Area V were new. A narrow strip of new residential development parallelled the west side of Jubilee Park and Stoney Creek. To the west and northwest of the exhibition grounds was another new residential area. Some old residences occupied space to the north of the normal school site. Most of the houses in Area V were ranked as Class 1, and almost all the others were Class 2 residences.

Area V had sites for school development. One site on Mount Pleasant Drive and adjacent to the exhibition grounds was to be used for an elementary separate school. A large area west of Sixty-second Street was the site for

the vocational and academic high school to be constructed by the Public School District. An elementary public school site was reserved to the south of the high school site. Three temporary classrooms for the Public School District were supplied in an exhibits building on the exhibition grounds.

One residential school and two places of worship were located in Area V. The school, the Alberta Bible Institute, was on a site between Fifty-fifth and Fifty-sixth Streets and north of Forty-seventh Avenue. On the north edge of the school campus was one of the two churches in the area, the Church of God, with which the Alberta Bible Institute was associated. A tabernacle used by the same church and school was on a site one block to the west of the Alberta Bible Institute. The second church in the area, a Jehovah Witness Kingdom Hall, was located on Fifty-sixth Street and to the north of Forty-seventh Avenue.

Public areas were reserved in Area V. The exhibition grounds, established more than fifty years ago, were between Fifty-third and Fifty-ninth Streets and Forty-fourth and Forty-sixth Avenues. Two small sites along Mount Pleasant Drive were reserved for public and institutional use. Like the east side of Stoney Creek, a strip was reserved and partly developed as park along the west side of the creek. Continuing to the south of Fifty-third Street brought one

to the banks of Stoney Creek and the ski jump and hill outside the city boundary.

Area V was the location of two hospitals and a home for aged persons. The Saint Mary's Hospital site was on Fifty-third Street and Forty-sixth Avenue. To the west of this hospital was Rosehaven, a provincially operated hospital for senile patients in the former provincial normal school building, and in other buildings on the enlarged site. Stoney Creek Lodge, a provincially built home for aged persons, was located on Fifty-third Street and Forty-fourth Avenue.

The city held land south of Forty-fourth Avenue on Fifty-third Street. South of Stoney Creek Lodge were water storage tanks for the city water supply. The city cemetery was adjacent to this site.

The southwest part of the city, once called the "Normal Hill," but much expanded since the time of the operation of the normal school, was occupied largely by residential and institutional buildings and by park land. Except for a few old residences to the north of the normal school site, all residences in Area V were new and provided homes for business and professional personnel while some were occupied by working class people. This residential area could be classified as one of maximum choice in the city.

There were two hospitals, a home for the aged, a private school, two places of worship, and three sites for schools, as well as large areas for parks and playgrounds in Area V. Farm area on the south and west provided possible room for further expansion.

Area VI. The sixth area considered in this study was that section of the city lying north of Highway 13, west of Mirror Lake and Stoney Creek, and south of the Canadian Pacific Railway--the extreme west Camrose. The occupied part of Area VI was largely a ribbon development along Highway 13.

The commercial part of Area VI was small. A furniture warehouse, filling station, and motel occupied space along Highway 13 between Fifty-sixth and Fifty-eighth Streets. A trailer court and another filling station were located further to the west.

With the exception of a narrow strip between Fifty-fifth and Fifty-sixth Streets and a few scattered homes further to the west along Highway 13, the residential area was new. Medium density residential area was occupied by old houses, while most of the new houses were in low density residential area. Residences were ranked as Class 1 and Class 2 largely. Part of the space zoned for residences, as indicated on Map 2, was undeveloped.

While most park land was undeveloped in Area VI, some space was developed for public use. A small landscaped park was at the south end of the foot bridge which crossed Mirror Lake. The south bank of Mirror Lake was undeveloped public area. A buffer strip of park land between Fifty-eighth and Sixtieth Streets separated the residences from Highway 13. Victoria Golf Course was in the northwest part of the area.

Briefly, Area VI was a small district between Mirror Lake and Highway 13, and was occupied largely by residences and a small commercial strip along the highway. Except for a few old houses on the east edge, the residential area was a new one which had invaded unoccupied space along Mirror Lake. Park land was reserved but only partially developed. Unoccupied space on the west side of Area VI provided further room for expansion.

One more section of the city not yet described was to the east of the Canadian National Railway. This was in the industrial part of the city with filling stations located along Highway 13. A few houses were on sites which might be described as acreages. Considerable space was devoted to agricultural pursuits. Due to the very small population in this part of the city, it was not designated as a city area of Camrose for the purposes of

this study. The four pupils living in this part of the city were included with Area IV pupils.

These, then, were the six city areas into which Camrose was divided for the purposes of this study. The oldest parts of the city and the commercial and industrial districts were within the boundaries of Areas I, II, and III. All school buildings except two private schools also were located in these city areas. Each of the city areas had new residential development on its periphery. Although Areas IV, V, and VI had some old residences, most of their residential districts were developed after 1945. Park and playground space, large sites for institutions, and three sites reserved for schools were within the boundaries of the three latter city areas.

5. SUMMARY

Camrose, Alberta, located in Central Alberta parkland, has a humid, continental, cool-summer climate with extremes in temperature. The economy of the area is based on agriculture largely, and on some oil, coal, and small industries. The city, a trading centre, is at a focal point of railways and highways providing transportation to Camrose from its trading area. The location

of Camrose is a factor in its growth as an urban centre.

The urban development of Camrose began with a relatively short boom period, continued with a slow, steady growth period, and surged ahead from 1946 to 1962. Schools developed from one-room to multi-room and from multi-room to multisystem. Town planning evolved from an incidental to a major concern of the urban administration. Land-use patterns of 1961-1962 were to a degree a product of administrative policies and adaptations to growth from 1905 to 1962.

Traffic arteries from the rural area and within the urban area, railways, and natural boundaries divided Camrose into six city areas. Area I or north Camrose was largely industrial and residential. Area II or west central was characterized by commercial and residential area, Area III or east central by commercial, industrial, and residential development, Area IV or southeast by residential and institutional space and parkland, Area V or southwest by residential, park, and institutional development, and Area VI or extreme west by residential area and scattered commercial development. Within these areas housing quality and zoning regulations for residential density varied with locations in the city.

Residences were ranked from Class 1 to Class 4 according to quality, and residential areas were zoned

from R1, single family dwellings, to R4, high density residential area. There was some correlation in the two systems of categorization of residences. Class 3 and Class 4 residences were located in the north and east parts of the city and near the industrial developments. Areas zoned for medium and high density residential space were located in the same parts of the city. Class 1 and Class 2 housing, occupying more desirable space in the city for residences, were in areas zoned for single family, or for low and medium density residential area. High density residential area surrounding the commercial zone had Class 2 quality dwellings. The zoning regulations for the density of residential areas and the ranking of housing by quality showed some evidence of the influence of concentric circle development in the city.

While Camrose was divided into six city areas by natural and artificial boundaries, the theory of concentric circle development had some application over all city areas. Commercial enterprises occupied Zone 1. Industry, service commercial, high density residential area, churches, and three early-established school sites were in Zone 2. Zone 3 had space devoted to industrial development, high, medium, and low density housing, and churches. Industry and the lowest quality housing were located to the east in the city in Zone 4. The same zone

had schools, hospitals, parkland, and new residential areas with hospitals, parkland, and highest quality housing to the south and west. Each zone was invading the zone surrounding it with invasion most extensive in undeveloped and agricultural area at the periphery. Zone 2, with some residences converted to multi-family dwellings, showed characteristics of a zone in transition.

Although there was evidence of concentric circle development in Camrose, one other theory of urban growth seemed applicable. Scattered commercial development along Highway 13 indicated ribbon development, while residential zoning regulations reinforced the ribbon development.

The land use of an urban centre becomes a complex of commercial, industrial, residential, institutional, and recreational space. The development of school facilities, institutions in the community, contributes to the establishment of this land-use system. The next chapter is concerned with the development of school facilities in Camrose.

CHAPTER IV

THE DEVELOPMENT OF SCHOOL FACILITIES IN CAMROSE

1. INTRODUCTION

The purpose of this chapter is to provide a description of the growth of the schools and school systems in Camrose from the one classroom of a frontier village to the multi-room, multi-system establishment of a modern and growing young city. This chapter enables one to see the relationship between school growth and the growth of the urban community from 1905 to 1962. It builds on the foundation of the preceding chapter, and in turn provides a basis for ecological interpretation of school growth attempted in the succeeding chapter.

To present the historical development of the school facilities in the City of Camrose, the schools are classified in five categories: (1) the schools in the Public School District--the first school, the first John W. Russell School, the Central Cottage School, the Camrose High School, the Camrose Junior High School, the Hillside Cottage School, the Sparling School, the second John W. Russell School, and the Fairground School; (2) the provincial normal school which was operated in the city for several years; (3) the school in the Camrose Separate School District--the Saint Patrick's School; (4) the school in the Camrose School

Division--the Sifton School located within the boundaries of the City of Camrose; and (5) the three private schools in operation in the city--the Camrose Lutheran College, the Canadian Lutheran Bible Institute, and the Alberta Bible Institute. The growth and development of the schools in these five categories are examined. The aspects of growth and development of special consideration are land acquisition for sites, building program, and school enrolment.

Data were collected from several sources--the by-laws of the City of Camrose, the minutes of the Camrose Council meetings, the minutes of the meetings of the board of the Camrose School District, the annual reports of the Alberta Department of Education, the catalogue of the Canadian Lutheran Bible Institute, the catalogue of the Alberta Bible Institute, a book published by the Camrose Historical Society, a master's thesis, and interviews with key persons. The researcher's familiarity with the local scene as a teacher in the city for nineteen years and as a resident in the rural area previously was an advantage in the acquisition of data.

2. CAMROSE PUBLIC SCHOOL DISTRICT

First School. The Village of Sparling established its first school class soon after it was incorporated. The first school class with twenty pupils and one teacher was held in the Presbyterian Church on July 31, 1905. This church,

on the east side of what later became Fiftieth Street, was between Forty-ninth and Fiftieth Avenues. In May, 1906 the school class was moved to the Lutheran Church at Fifty-second A Street and Fiftieth Avenue for more room. That fall there were ninety pupils, two teachers were employed, and the Presbyterian and Lutheran Churches were used as classrooms.[1]

First John W. Russell School. A school building was needed, and construction of a four-room brick school was begun while the settlement was still a village. The new building was opened on May 24, 1907, and high school classes began in the fall of 1907. The site was that occupied by the present John W. Russell School on the south half of Block Twelve,[2] and had an area of 2.84 acres.[3] In 1911 four rooms were added to the structure which was built in 1907. The school was used for educational purposes until it burned in December, 1950.

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[1] Frank Perley Layton, "Early History of Camrose," Early History of Camrose and District (The Camrose Historical Society, 1947), pp. 5-7.

[2] Ibid., p. 7.

[3] Interview, Dr. J. R. S. Hambly, Superintendent of Schools, Camrose Public School District, May, 1962; areas given for all school sites are to slide rule accuracy.

Central Cottage School. The Central Cottage School, a two-room wooden structure, was located on a .27 acre site across the street from the southeast corner of the John W. Russell School grounds.[4] Records indicated that it was in 1928 that the Public School Board planned the construction of the Central Cottage School, a building used for primary grades largely.

> Dr. F. A. Nordbye, Chairman of the Camrose School Board, appeared before the Council with regard to the construction of a detached school building and asked what lots would be available for building purposes. He was informed by the Mayor that the School Board was at liberty to make use of any lots to which the Town had Title which the Board might consider as most desirable for their purposes.[5]

Since its construction the school was not used regularly for elementary school classes. Its use appeared to depend upon the availability of classroom space located elsewhere in the urban area.

Camrose High School. Part of the present site of the Camrose High School was shown as school property on a map of the town dated 1912. In a map of the area dated 1910, the same area was shown surveyed for lots. The area was approximately three hundred eighty-one feet by five

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[4] Ibid.

[5] C.C.M. No. 9, May 7, 1928.

hundred feet.[6] Although the exchange of this property for some other was considered in discussion with the school board and council, it was retained for school purposes and was used as athletic grounds until it was required for a high school site.[7]

In 1929 the Camrose School Board appeared before the council.

> Dr. F. A. Nordbye, H. A. Manning, H. P. Foucar, and H. U. Johnstone, representing the Camrose School Board and W. L. Knaut, Secy-Treas., of the Board, were present to discuss with the Council the question of providing for a new High School. . . . In a new school provision would have to be made for a physical and chemistry laboratory and also for a gymnasium. Some provision should also be made to accomodate [sic] students who take their lunch to school. This could be done by providing some form of a combined kitchen and dining-room. The Board would favor the erection of an eight room High School. The site already reserved in Fairview would be used.[8]

The original part of the high school was opened on the reserved site in 1930.[9]

In 1937 consideration was given to adding general shop and household economics to the school program with the general shop to be offered jointly with Wetaskiwin.[10]

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[6] Maps in the Book of By Laws, Office of the City of Camrose.

[7] C.C.M., No. 18, Nov. 10, 1921; No. 26, Nov. 27, 1922; No. 4, April 6, 1925.

[8] *Ibid.*, No. 9, 1929.

[9] *Ibid.*, No. 26, 1930.

[10] The Camrose Canadian, December 31, 1937

A private home, referred to as the "Fisher House" and located two blocks to the west and one and one-half blocks to the north of the high school, was rented on September 1, 1940 for the household economic classes.[11] The house was vacated by the school in August, 1941.[12] In 1940 a portion of the basement of the Post Office Building on Fiftieth Street and Forty-ninth Avenue and five blocks from the high school, was rented for general shop purposes.[13] The following year a request was made for more space in the basement of the same building.[14] In 1941, with a classroom and shop added to the west wing and the household economics addition constructed on the east wing of the high school, the space for these electives was permanently located in the high school plant.[15]

The school site was expanded eventually to an area of 9.27 acres.[16] A portion of the ground to the east of

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[11] Camrose School District Minutes, August 26, 1940. Hereafter the Camrose School District Minutes are referred to as C.S.D.M.

[12] C.S.D.M., August 25, 1941.

[13] *Ibid.*, September 4, 1940.

[14] *Ibid.*, April 7, 1941.

[15] *Ibid.*, July 11, 1941.

[16] Interview, Dr. J. R. S. Hambly, May, 1962.

the school was cleared of brush in 1943 so that it could be cultivated for extension of the high school grounds. When the Camrose School Division in 1950 began plans for a school to the east of the Camrose High School site, the Camrose Public School District asked the town council for more space on the east side of their site. As a result Forty-fourth Street between Forty-eighth and Forty-ninth Avenues and one-half of the block to the east of Forty-fourth Street were given to the Public School District making a total area of 9.27 acres.[17]

Camrose Junior High School. More space was needed for elementary and junior high school grades in 1951.[18] Nine classrooms and three rooms for industrial arts classes were attached to the rear of the high school building to serve as seven junior high school classrooms, two primary classrooms, and junior and senior high school shops. These rooms were opened in January, 1952. Two additional classrooms, an office, and a cloakroom were constructed

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[17] C.C.M., No. 17, September 7, 1943; Interview, C. Killam, Former Chairman of the Camrose Public School District, April, 1964.

[18] C.S.D.M., December 17, 1951; January 7, 1952.

and ready to be occupied in February, 1954.[19] The eleven classrooms were used for primary and junior high school grades. In 1961-1962 one of the rooms was required for senior high school space.

The space provided for physical education in the auditorium of the high school was inadequate for the enlarged school. The Charlie Killam Gymnasium and a band room were under construction in 1957.[20] They were attached to the main building and were intended for the use of the junior and the senior high school. The gymnasium met the demands of the school program for space and was used for large community gatherings as well.

Hillside Cottage School. The need of more space for elementary school grades resulted in the construction of a second cottage school within one block of the John W. Russell School site. The Hillside Cottage School was opened in the fall of 1947 on a .55 acre site donated by the town, and on property owned by the town.[21] The building

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[19] C.S.D.M., February 15, 1954; May 4, 1953; Alberta Department of Education Annual Report, 1954.

[20] Ibid., 1957, p. 120.

[21] Interview, Dr. J. R. S. Hambly, May, 1962.

had one basement and two ground floor classrooms with an additional basement room intended for a playroom. The building, designed for elementary school grades with forty pupils per room, was built on vacant land in an old residential area of the town.[22]

Sparling School. While a residential area had been established to the north of the Canadian Pacific Railway, no school had been built in that area. In March, 1954, the Camrose School Board decided to build a six-room elementary school[23] on a 3,57 acre site owned by the town in the northwest part of the town and located to the north of the Canadian Pacific Railway.[24] The building, ready for use in the spring of 1955 and known as the Sparling School, was used for elementary and junior high school grades.[25] It was constructed for easy enlargement but remained in 1962 as it was built originally.

Second John W. Russell School. In December, 1950, the original John W. Russell School burned. A new eight-

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[22] C.S.D.M., May 26, 1947.

[23] Ibid., March 15, 1954.

[24] Interview, R. H. Hume, Mayor of City of Camrose, May, 1962.

[25] Alberta Department of Education Annual Report, 1955, p. 113.

room school, with two playrooms and a small auditorium, was erected on the same 2.84 acre[26] site as the first John W. Russell School.[27] The new school, in use in March, 1952, and originally used for Grades III to VI, served as classroom space for Grades III to VIII depending upon classroom requirements in the school system.[28]

Fairground School. With the growing demand for more space for the public school pupils, temporary accommodation was provided, at no charge to the school system, for three elementary school classes in the Exhibits Building in the exhibition grounds for the term beginning in September, 1961. (Normally, this building was idle between annual summer exhibitions.) The playground area was extensive, and the Sales Building, located about one-half block from the Exhibits Building, was available for physical education classes.

Building Program. By 1961 it was apparent to the Camrose Public School Board that additional classrooms

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[26] Interview, Dr. J. R. S. Hambly, May, 1962.

[27] C.S.D.M., January 15, 1951; May 18, 1951; Alberta Department of Education Annual Report, 1952, p. 112.

[28] C.S.D.M., March 18, 1952. See footnote 11, Chapter V, for record of temporary accommodation used in 1951.

were required for the school system. A 36.36 acre site for a new high school and vocational school on the southwest edge of the city was purchased from Dr. Elliott for one thousand dollars per acre. The new building planned for the site was to have a two-storey academic wing with twenty-three classrooms, an administration wing, a vocational wing, and a joint area for academic and vocational high school pupils.[29]

With the development of a new residential area to the east of the site for the new academic and vocational high school, the Public School Board anticipated a need for an elementary school in the southwest part of the city. As a result eight acres of land to the south of the new high school site were reserved for an eight-room elementary public school in the Mount Pleasant sub-division.[30]

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[29] Interview, Dr. J. R. S. Hambly, May 19, 1963, April 11, 1964.

The Camrose Composite High School, built with the aid of federal funds, was opened in September, 1963. The Public School District had planned to build a new high school in Camrose before the federal government announced its intention to assist in the cost of vocational schools. However, without federal assistance the school would not have been as large, the shops would not have been included although some provision would have been made for shops for industrial arts, and the school would not have been as well equipped.

The size of the site was established before federal assistance for vocational schools was announced.

[30] *Ibid.*, May, 1962.

School Enrolment. The increase of pupil personnel in the Camrose Public School District from 1905 to 1962 is indicated on Figure 2. From 1905 to 1920 there was a steady increase in school enrolment from 20 to 638 pupils. From 1920 to 1928 the school enrolment increased by 80 pupils, but from 1928 to 1944 there was a decline from 718 to 650 pupils. This period was followed by a steady increase in enrolment until 1957 when there were 1,190 pupils. In 1957 the Camrose Separate School District opened its first school, and the Camrose Public School District enrolment declined to 1,031 pupils in 1958 and to 1, 021 pupils in 1959. By 1962 the pupil personnel in the Camrose Public School District had increased to 1,183.[31]

Summary. From one teacher and one class of twenty pupils in a church used as a classroom in 1905, the Camrose Public School District grew to have schools on six sites and to have forty-seven teachers, a superintendent, and one thousand one hundred eighty-three pupils in 1962. The John W. Russell School with four rooms, enlarged to eight rooms, and rebuilt in 1952, was on the first school site in Camrose. The Central and Hillside Cottage Schools,

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[31] Alberta Department of Education Annual Reports, (Edmonton: King's Printer, 1907-1961); Frank Perley Layton, op. cit., pp. 5-7.

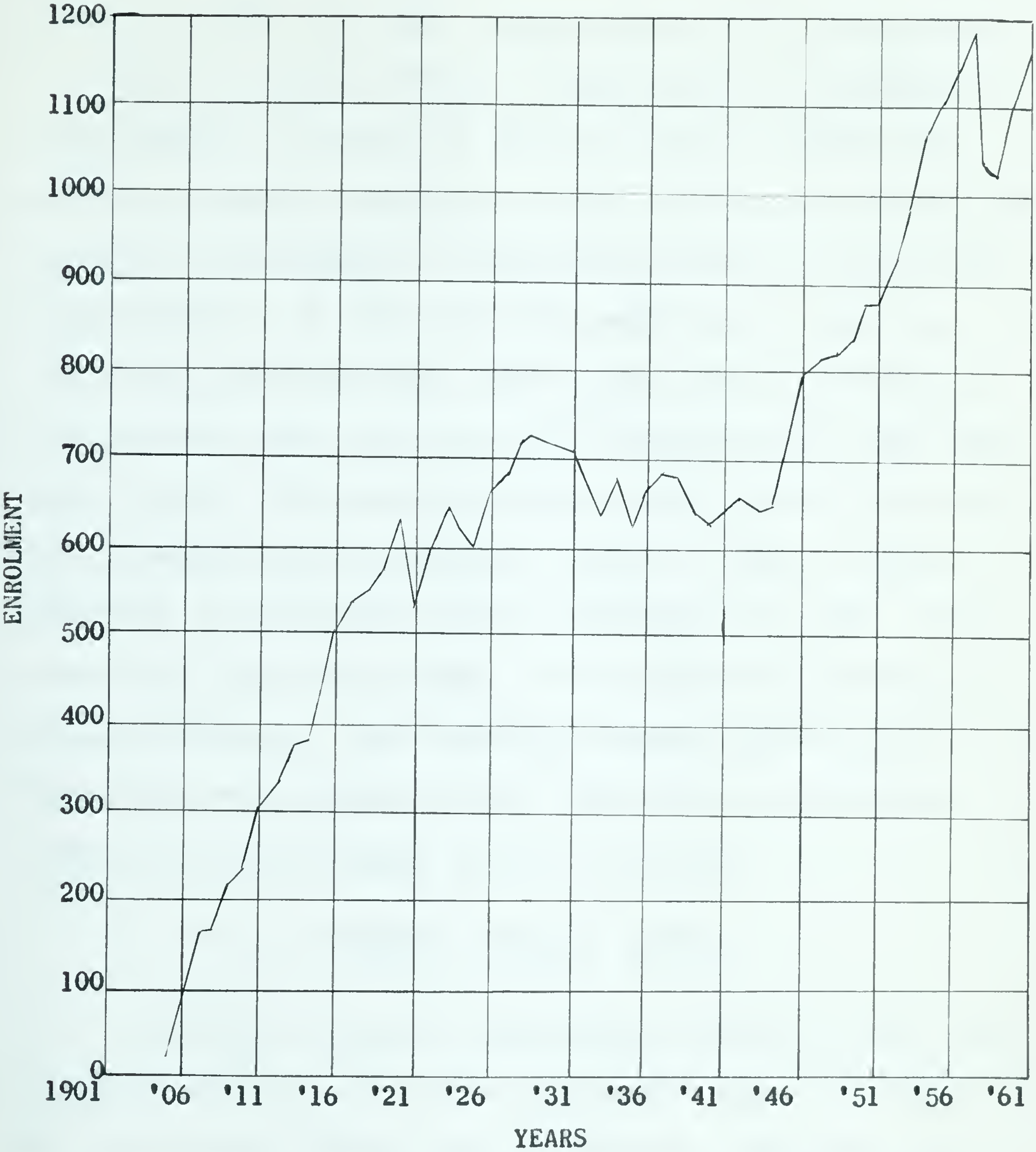

Figure 2. Enrolment in Schools of the Camrose Public School District from 1905 to 1961*

*Alberta Department of Education Annual Reports, (Edmonton: King's Printer, 1907-1961).

opened in 1928 and 1947, respectively, were built near the John W. Russell School on small sites. The Camrose High School was opened in 1930 on a site reserved for school purposes as early as 1912. In 1941 the school was enlarged to accommodate household economics and general shop classes. In 1951 and 1954 additional rooms were added for elementary and junior high school grades and for general shops, and in 1957 a gymnasium and band room were built. The Sparling School, built to the north of the Canadian Pacific Railway, opened in 1954. With a shortage of elementary school classrooms in 1961, three temporary rooms were opened in an exhibits building on the fairgrounds. The building program provided for a vocational and academic high school and an elementary school in the southwest part of the city.

3. CAMROSE NORMAL SCHOOL

In 1912 a normal school with a staff of two, with eighteen students, and with a practice school staff of six was opened in the Town of Camrose. The first classes were held on the site of the present John W. Russell School.

> Three rooms and an office in the central school building of the town were immediately placed at the disposal of the normal school. Two cottage schools were provided for the accommodation of the children thereby displaced. A large two-storey cottage school was constructed for the accommodation of the departments of manual

> training and household arts. The school board having provided the accommodation, the Department of Education undertook to furnish the equipment and instruction in manual training and household arts.[32]

There were three two-storey buildings about thirty feet by thirty feet with one room on each floor built on the present John W. Russell School site and used as classrooms. Later, when they were not required for school purposes, two of these buildings were moved to the exhibition grounds. The third building was moved from the west side of Fifty-second Street to a site on the east side of the street and was converted to a dwelling house.[33]

In 1913 a ten acre site adjacent to the fifty acre exhibition grounds was acquired for the new normal school building.[34] The new building, opened in 1915, provided accommodation for eight practice school classrooms, three lecture rooms, and additional space.[35]

The space provided was not considered adequate. W. A. Stickle, principal of the Camrose Normal School, in

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[32] Alberta Department of Education Annual Report, 1912, p. 43.

[33] Interview, Mayor R. H. Hume, May, 1963; J. E. Stuart, principal of Camrose Elementary and Junior High School, April, 1964.

[34] Alberta Department of Education Annual Report, 1913, p. 37.

[35] Ibid.

his report for 1921 stated:

> The Normal and Practice Schools have not nearly enough room for gardens and playground. The space which was always inadequate, was curtailed last year by the opening of a street which took off a 66-foot strip. A fine piece of land adjoining the present site is now available, and would furnish the needed extension in a convenient location.[36]

G. K. Haverstock, principal, reported in 1930 that there were eight classrooms in the normal school and six classrooms in the John W. Russell School available for practice teaching.[37] He reported in 1932 that first-class students had an opportunity to observe and to teach in Grades IX and X of the Camrose High School.[38] This meant that space apart from the normal school site was used by the normal school.

The school, closed as a normal school in June, 1938, continued to be used for other purposes. The basement and the first floor of the building were leased by the Camrose School District until 1940 for the use of public school classes.[39] The normal school building was used by the

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[36] Ibid., 1921, p. 45.

[37] Ibid., 1930, p. 26

[38] Ibid., 1932, p. 29.

[39] C.S.D.M., August 16, 1938; June 14, 1940; July 3, 1940; August 13, 1940.

Canadian Army for the basic training centre established on the adjacent exhibition grounds during most of the years of World War II. Following the closing of the army basic training centre the normal school building was converted to a provincial home for senile patients.

To summarize, a provincial normal school was in operation in Camrose from 1912 to 1938, and the normal school building was used for school purposes until 1940. Temporary space for normal school classes was provided in the John W. Russell School until 1915 when the new normal school building in the southwest part of Camrose was ready for occupancy. In 1940 the building was occupied by the Canadian Army. After it was no longer required by the army, the normal school building became a home for senile patients.

4. CAMROSE ROMAN CATHOLIC SEPARATE SCHOOL DISTRICT

The Camrose Roman Catholic Separate School District No. 60 was established on July 23, 1956. A school with twelve general classrooms, a gymnasium, a shop, a home economics department, and a science room was built on a 9.37 acre site[40] on the northern edge of the city on

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[40] Interview, J. Lambe, City of Camrose engineer, May, 1962.

property purchased from a private citizen, since none of the city-owned land available was considered suitable.[41] The school, known as Saint Patrick's School, was opened in 1957 with an enrolment of two hundred forty-six pupils in ten classrooms.

More space was soon required. Four general classrooms were constructed to enlarge the existing building in 1960, when the enrolment had increased to three hundred sixty-four.[42] By 1961 the enrolment was four hundred thirteen.

Following the residential development in the Mount Pleasant sub-division in the southwest part of the city, the board of the Separate School District asked the city council for a site for an elementary school to be located there. In December, 1961, there were 5.6 acres of reserve land to the west of the exhibition grounds transferred to the Separate School District "at a frontage cost basis of fourteen dollars per front foot on approximately four hundred feet of frontage."[43] Construction of the school was started in the spring of 1962.

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[41] Interview, Mayor R. H. Hume, May, 1962.

[42] Alberta Department of Education Annual Reports, 1957, p. 120; 1959-60, p. 146.

[43] C.C.M., December 18, 1961.

The separate school system grew from an enrolment of two hundred forty-six pupils in ten rooms in 1957 to four hundred five pupils and sixteen teachers in an enlarged building in the spring of 1962. The building program included an elementary school to be built on a site in the southwest part of the city.

5. CAMROSE SCHOOL DIVISION

In 1941 the Camrose School Division No. 20, which surrounded the Camrose School District, planned to establish a permanent office in Camrose. A lot on forty-ninth Street and north of Fiftieth Avenue was purchased from the town for two hundred fifty dollars. An old school building, to be used for an office and a storehouse, was moved to the site.[44]

In 1950 the school division decided to enlarge its accommodation. Before 1950 the site of the office and storehouse was enlarged to two fifty-foot lots.[45] A building permit was approved for the construction of a vehicle service and maintenance garage to be built at this site.[46]

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[44] C.C.M. No. 13, July 7, 1941.

[45] Interview, J. Lambe, May, 1962.

[46] C.C.M. No. 10, May 15, 1950.

Plans were proposed also for the construction of a school to which pupils from eight rural schools adjacent to Camrose would be transported.

> The site proposed was immediately East of the present High School on Block C, Plan 5262 A B and Block 8, Plan 3056 A C. This property had been tentatively set aside a number of years ago for school purposes and comprised about seven acres, the desired area for such a school grounds.[47]

All of Block C Plan 5262 A B was sold to the Camrose School Division No. 20 for the price of one dollar.[48] The Sifton School, as the divisional school was named, was completed during 1952.[49] Ten classrooms for Grades I to IX were available for use in a two-storey building on a site of 5.13 acres.[50]

Bus barns and storage space were required by the school division. Since the completion of the school, four school bus garages were constructed on a .9 acre site to the east of the school and to the west of the Canadian National Railway, and a two-room rural school was moved to the same site.[51]

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[47] C.C.M. No. 6, March 20, 1950.

[48] C.C.M. No. 8, April 17, 1950.

[49] C.S.D.M. December 1, 1952; Alberta Department of Education Annual Report, 1952, p. 102.

[50] Interview, J. Lambe, May, 1962.

[51] Ibid.

Within the City of Camrose the Camrose School Division had buildings on three sites. An office, established in 1941, and a maintenance garage, established in 1950, were on a downtown location. The Sifton School, a ten-room elementary and junior high school was completed in 1952 on a site on the east edge of the city. Bus barns and storage space were located to the east of the school site.

6. PRIVATE SCHOOLS

In 1962 there were three private schools within the boundaries of the City of Camrose. The Canadian Lutheran College had a large site on Fiftieth Street and Forty-sixth Avenue on the southern edge of the city. The Camrose Lutheran Bible Institute was located on Fifty-second Street and Forty-ninth Avenue. The Alberta Bible Institute was on Fifty-fifth Street and Forty-seventh Avenue and to the northwest of the former provincial normal school building. Each of the schools provided residence facilities.

Camrose _Lutheran_ _College_. The Camrose Lutheran College was established early in the history of Camrose. In 1909 a by-law was passed by the town to purchase twenty-three acres for four thousand four hundred dollars

on the southern limits of the town and to give the land to the United Norwegian Lutheran Church of America free of charge.[52] In 1912 the streets and lanes in the property were sold to the association for one dollar.[53] Before a school was completed on the school site, temporary quarters were secured for general dormitory purposes in the Heathbrae Hotel on Fifty-first Street and Fiftieth Avenue. "Classes were conducted in the two Camrose Lutheran Churches and in an auxiliary class-room building on the present John W. Russell School grounds."[54]

The college expanded its program on its campus. A four and one-half storey college building, providing accommodation for four classrooms and dormitory and dining facilities, was ready for use in October, 1912. One hundred thirteen students were enrolled in 1912-1913. The program offered in the first stages of the history of the college included academic courses, a parochial normal course, a pre-seminary course, a preparatory school, and a school of business.[55] From 1916 to 1962 high school courses,

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[52] Town of Camrose By-law No. 50, August 5, 1909, p.66.

[53] Ibid., No. 141, December 6, 1912.

[54] Chester A. Ronning, "A Study of an Alberta Protestant Private School the Camrose Lutheran College, A Residential High School" (unpublished Master of Arts thesis, University of Alberta, May, 1942), p. 24.

[55] Ibid., pp. 24, 155, 97; Camrose College Bulletin, July, 1913, Vol. 2, No. 2, pp. 8-11.

not at first of the same standard as those offered by the public schools following the curriculum of the Department of Education nor acceptable for entrance to the University of Alberta, were offered at the school.[56] In 1959 a junior college, affiliated with the University of Alberta, was established.

Construction of additional buildings began on the Camrose Lutheran College campus in the late nineteen hundred forties. In 1947 permission was granted to erect a prefabricated building seventy-two feet by ninety-six feet at the south of the college building.[57] The building was intended largely for a gymnasium and an auditorium. A dormitory to house seventy girl students and with one suite was built in 1952 to the northwest of the original building. In 1958 the Camrose Lutheran Junior College building was completed and used for high school classes in 1958-1959, and for high school and junior college classes since 1959. There was space in the new building for seven classrooms, a library, three science laboratories, one typewriting laboratory, and eight offices. Further expansion on the campus was planned.

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[56] Ronning, op. cit., p. 39-40.

[57] C.C.M. No. 12, 1947.

With the building construction came a desire for a larger site. In February, 1961, the city council "was prepared to sell approximately four acres of land in the vicinity of the college campus site at a nominal figure of $100.00 . . . .[58] The actual area purchased was 4.95 acres.[59]

The college residence did not have enough space for the 1961-1962 class. There were one hundred sixty-two students registered in the high school and thirty-one students registered in the junior college. The residences provided accommodation for sixty boys in the old building, and for seventy girls in the new dormitory. The boys registered in the junior college who were not resident in Camrose homes and the dean of the junior college boys had dormitory space in the top floor of the dormitory at the Canadian Lutheran Bible Institute.[60] Thus, housing was provided off the college campus.

Canadian Lutheran Bible Institute. The Canadian Lutheran Bible Institute was a school for the Christian training of laymen. Before the building was constructed

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[58] Ibid., No. 3, February 6, 1961.

[59] Interview, L. Olson, chairman of the board of regents, Camrose Lutheran College, May, 1963.

[60] Interview, G. Loken, president of Camrose Lutheran College, June 1, 1962.

in 1940, classes were held as early as 1932 in the Central Cottage School owned by the Public School District and located across Fifty-second Street to the east of the present institute building. In 1940, when the new building was opened, the enrolment was twenty-eight.[61]

The permit for the construction of a building for the Canadian Lutheran Bible Institute located on a 1.2 acre site to the south of the John W. Russell School was issued in July, 1939.[62] The site was reserved prior to that time, as shown in the following quotation.

> Mayor Pearson reported that a request had been received from the Canadian Lutheran Bible Institute . . ., asking that the property located to the south of the John W. Russell school, . . . be set aside for their use, it being their intention to erect a dormitory on the ground . . . . Council agreed that the property be donated to the Institute.[63]

The building, first used in the fall of 1940, could house fourteen students and a matron and had two classrooms.

The Canadian Lutheran Bible Institute building was enlarged in 1953. Rooms for an additional forty-eight students and a suite for the residence head were built. In 1954, when the new dormitory was dedicated, the

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[61] _Canadian Lutheran Bible Institute Catalogue_, 1961-62, p. 2.

[62] C.C.M. No. 14, July 17, 1939.

[63] _Ibid._, No. 4, February 18, 1935.

enrolment numbered seventy.

With the exception of one part-time student enrolled in the school in September, 1961, the thirty-three students lived in the school dormitory.[64]

Alberta Bible Institute. The Alberta Bible Institute, operated by the Church of God, was opened in Camrose on November 12, 1935, on its new 3.4 acre campus on Forty-seventh Avenue and Fifty-fifth Street.[65] The one building in use at that time was a large dwelling house once used as a hospital. Two years later H. C. Gardner asked for more property to add to the site.

> Reverend Gardner representing the Alberta Bible Institute, Camrose, appeared before the Council asking for a free grant of land south of their present site and that it and improvements be exempt from taxation. They proposed moving a building 60' x 90' partly finished from Ferintosh. This building has a seating capacity of 1,000 people. The site proposed to be used for campings held during the summer months, the outside attendance being about 200 persons. This matter was left over for future attention.[66]

The Church of God was given Lots 8 to 17 in Block 14, Mount Pleasant sub-division.[67] This land was to the south

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[64] Interview, C. Robert Pearson, Dean of Canadian Lutheran Bible Institute, June 18, 1962.

[65] Alberta Bible Institute, Box 549, Camrose, 1962-1965; interview, J. Lambe, May, 1962.

[66] C.C.M. No. 14, August 2, 1937.

[67] *Ibid.*, No. 17, September 20, 1937.

of Forty-seventh Avenue from the school campus.

The Alberta Bible Institute began to enlarge its facilities in 1944. In the same year an application to enlarge the original building with a two-storey addition forty feet by forty feet by thirty feet was presented to the town council. The new structure was to provide a chapel, classroom, and dormitory.[68] In 1946 the institute applied for a permit to build a teacherage on their campus to be located to the west of the school.[69] A dormitory building permit was sought in 1947. The building was built to the north of the teacherage.[70] A church was erected on the northeast part of the property, and two family residences were built to the west of the church.

The property occupied by the Alberta Bible Institute to the south of Forty-seventh Avenue was taken by the Province of Alberta for an extension of the property used for Rosehaven, a home for senile patients, and the building on the property was moved to a site one block to the west. This site had an area of one block.

The Alberta Bible Institute was a small educational institution. The main building had three

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[68] Ibid., No. 15, August 7, 1944.

[69] Ibid., No. 18, September 16, 1946.

[70] Ibid., No. 19, October 6, 1947.

classrooms, three suites for adults, and residence accommodation for eighteen girls. The dormitory to the west of the main building housed sixteen boys.[71]

Although the institute was "A School to teach the Bible and train Pastors, Missionaries, Directors of Christian Education and Directors of Music,"[72] in 1950 the Department of Education approved the teaching of Grades IX to XII or Grades X to XII in its program of instruction. (The grades taught seemed to be at the option of the institute.) In 1952 there were thirteen pupils, and in 1957 there were ten pupils registered in Grades X to XII. After 1957 the institute discontinued the high school classes.[73] In 1961-1962 the enrolment was twenty-two with three additional part-time students.[74]

Summary. Camrose had three church-operated private schools. The Camrose Lutheran College offered an academic high school and a junior college program. The Canadian Lutheran Bible Institute and the Alberta Bible Institute were Bible schools.

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[71] Interview, R. Yamabe, Dean of Alberta Bible Institute, February, 1962.

[72] *Alberta Bible Institute*, *op. cit.*, p. 1.

[73] Alberta Department of Education *Annual Reports*, 1950, p. 43; 1952, p. 43; 1957, p. 51.

[74] *Alberta Bible Institute*, *op. cit.*, p. 31.

The Camrose Lutheran College, on a large site on the south side of the city, began classes in 1909 in temporary classrooms on the John W. Russell School grounds. Since the school was established, academic, religious, business, and junior college courses were offered. The campus, enlarged in area and from one building to four buildings, was planned for further expansion. The enrolment varied from one hundred thirteen pupils in 1912-1913, to forty-four pupils in 1922-1923, to one hundred thirteen pupils in 1940-1941,[75] and to one hundred ninety-three pupils in 1961-1962.

The Canadian Lutheran Bible Institute, a Bible school, began classes in the Central Cottage School in 1932, built a residential school with two classrooms in 1940 to the west of the Central Cottage School to accommodate fourteen students and a matron, and enlarged the building in 1953 to a size sufficient for forty-eight additional students and for one suite. The enrolment fluctuated over the years with sixty-one students in 1932, seventy students in 1954, and thirty-three students in 1961.

The Alberta Bible Institute, operated by the Church of God, was opened in 1935 on a site to the north of the

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[75] Ronning, op. cit., p. 87.

normal school site. A tabernacle, moved to a site nearby, later was moved one block to the west of its first site. The original residential school was enlarged to provide a chapel, a classroom, and additional dormitory space. A teacherage, dormitory, church, and two family residences were built on the school site. While the institute was primarily a Bible school, the Department of Education permitted Grades IX to XII to be offered at the school from 1950 to 1957. The enrolment in 1961-1962 was twenty-five students.

7. CHAPTER SUMMARY

Since 1905 schools in the urban settlement at Camrose were operated by the Camrose Public School District, the provincial Department of Education, the Camrose Separate School District, the Camrose School Division, the Lutheran Church, and the Church of God. The churches had three private schools--the Camrose Lutheran College, the Canadian Lutheran Bible Institute, and the Alberta Bible Institute.

The Camrose Public School District facilities and personnel grew from one class of twenty pupils in a church building in 1905 to six schools, three temporary classrooms, forty-seven teachers, a superintendent, one thousand one hundred eighty-three pupils, and two reserved school sites in 1962. The John W. Russell School, with four rooms in

1907, enlarged to eight rooms in 1911, and rebuilt in 1952, was on the first school site in Camrose. The Central and Hillside Cottage Schools, opened in 1928 and 1947 respectively, were built near the John W. Russell School on small sites. The Camrose High School was opened in 1930, was enlarged in 1941 to accommodate household economics and general shop classes, was enlarged in 1951 and 1954 to provide room for elementary and junior high school classes, and was enlarged in 1957 by the addition of a gymnasium and band room. The Sparling School was opened in 1954, and temporary classrooms were secured on the exhibition grounds in 1961.

The Camrose Normal School was operated by the Alberta Department of Education from 1912 to 1938. Before 1915 temporary space for the school was provided in the John W. Russell School. After the normal school was closed, the normal school building, located on a site in the southwest part of the city, continued to be used by public school classes until 1940 when it was required by the Canadian Army. After the army vacated the building, it was converted to a provincial home for senile patients.

The Camrose Roman Catholic Separate School District, established in 1957, had one school and one school site reserved for an elementary school. The system grew from two hundred forty-six pupils in ten rooms in 1957 to

four hundred five pupils and sixteen teachers in an enlarged building with sixteen classrooms in the spring of 1962.

The Camrose School Division had buildings on three sites within the City of Camrose. An office and a maintenance garage, opened in 1941 and 1950 respectively, were on a downtown location. Sifton School, completed in 1952, was on a site to the east of the city, and a site for bus barns and for storage space was located to the east of the school site.

The Camrose Lutheran College, with a large site on the south side of the city, began classes in 1909 in temporary classrooms on the John W. Russell School grounds. Over the years this school had offered academic, religious, business, and junior college courses, had enlarged its facilities from one to four buildings, and had plans for further expansion. Beginning with an enrolment of one hundred thirteen pupils in 1912-1913, the school had one hundred ninety-three pupils in 1961-1962.

The Canadian Lutheran Bible Institute, near the centre of the city, began classes in the Central Cottage School in 1932, built a residential school in 1940, and enlarged the building in 1953 to provide total accommodation for sixty-two students, a matron, and one suite. Beginning with an enrolment of sixty-one students in 1932,

the attendance fluctuated over the years. In 1961 there were thirty-three students.

The Alberta Bible Institute, on a site to the north of the normal school site, was opened in 1935. The original building, a dwelling once used as a hospital, was enlarged, and a teacherage, dormitory, church, and two family residences were built on the site, and a tabernacle was moved to a site nearby. The main building and dormitory provided space for three classrooms, for three suites for adults, and for rooms for thirty-four students. Although the institute was a Bible school primarily, Grades IX to XII were permitted to be offered at the school by the Department of Education from 1950 to1957. There were twenty-five students enrolled at the institute in 1961-1963.

CHAPTER V

DETERMINANTS AND PROCESS IN THE LOCATIONS OF SCHOOLS

1. INTRODUCTION

Space in the urban community is an essential commodity for schools. It is held that the ecological processes are involved in the location, the acquisition, and the size of space of school sites. The purpose of this chapter is to answer three questions concerned with the determinants and process in the location of space for schools in Camrose.

1. Where were the schools located?
2. How were the sites acquired?
3. Was there an increase in the areas of sites allocated for school purposes from 1905 to 1962?

Data from Chapter IV, some of which are summarized in two tables, and interviews provided the answers to the questions.[1]

This chapter concludes with a summary of the findings from the analysis of the data used to answer the three questions, and with an attempt to summarize, in ecological terms, the results of the detailed analysis in Part II.

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[1] Interview, R. H. Hume, Mayor of the City of Camrose, May, 1962.

2. LOCATION, ACQUISITION, AND AREA OF SCHOOL SITES

Locations of school sites. Data summarized in Table 5.1 show the school site, the date of school opening on the site, the location of the site in relation to the developed area of the urban community, and the former owner of the site. The data were used to answer the first question.

There were fifteen school sites either occupied or reserved in Camrose. There were ten of these sites on the periphery at the time the sites were occupied or reserved, and one site acquired in 1962 was near the periphery. The site of the first school, while on the main street of the village, was likely on or near the edge of the village, but data were not available to verify this probability. The three sites located in the residential area were within two blocks of each other in Area II. It is shown on Table 5.2, that the cottage schools were on sites of .27 acre and .55 acre while the Canadian Lutheran Bible Institute had 1.2 acres of property. The tendency seemed to be to go to the periphery for school sites unless the site was small. The three smallest sites were those located in a residential area at the time of their establishment.

Acquisition of school sites. The former owners of school sites are indicated on Table 5.1. There were eleven of the fifteen sites secured from the town or city, one site likely

TABLE 5.1

SCHOOL SITES

School	Date of opening	Location in relation to developed area	Former owner of site
First School	1905	main street	likely village
John W. Russell	1907	periphery	town
C. L. C.*	1912	periphery	town
Normal School	1915	periphery	town
Central Cottage	1928	residential	town
High School	1930	periphery	town
A. B. I.*	1935	periphery	town
C. L. B. I.*	1940	residential	town
Hillside Cottage	1947	residential	town
Sifton	1952	periphery	town
Sparling	1954	periphery	town
Saint Patrick's	1957	periphery	citizen
Separate S.D. site	1962	near periphery	city
Public S.D. site	1962	periphery	reserved
Composite High site	1962	periphery	citizen

*The names of the private schools have been abbreviated.

C. L. C. -- Camrose Lutheran College;
A. B. I. -- Alberta Bible Institute;
C. L. B. I. -- Canadian Lutheran Bible Institute.

was secured from the village, one site was reserved in an area of future development, and two sites were purchased from private citizens. Until 1957 when the Separate School District was formed, sites were provided free or very nearly free by the town, and before 1957 schools were built on land provided exclusively by the town.[2]

Until 1962 school sites were free to the Camrose Public School District. The 36.36 acre site purchased in 1962 cost the school district one thousand dollars per acre. The site reserved in 1962 was not purchased. Instead, its reservation was merely an understanding between the city and school governing bodies.

While no record in local documents was found as verification, it was assumed by the researcher that the normal school site was provided free by the town. This assumption was based on the fact that all school sites established before 1957 were provided free or very nearly free by the town.

The Camrose Separate School District had no free school sites. Its first school, opened in 1957, was built on a site purchased from a private citizen since none of the city-owned land available was considered suitable. The site purchased from the city in 1962 cost the Separate School District five thousand six hundred dollars.

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[2] Interview, Mayor R. H. Hume, May, 1962.

The Camrose School Division had property in two locations in Camrose. Records showed that the site of the office, storehouse, and maintenance garage was purchased from the town. However, the school site was provided by the town for a payment of one dollar.

Private schools had sites provided free or very nearly free by the town. In 1909 the town gave twenty-three acres which it had purchased for four thousand four hundred dollars to the United Norwegian Lutheran Church of America for the Camrose Lutheran College site. In 1912 the town sold the streets and lanes in the property to the association for one dollar. The Camrose Lutheran College site was enlarged by 4.95 acres at a nominal fee of one hundred dollars in 1961. School sites were provided free to the Camrose Lutheran Bible Institute and the Alberta Bible Institute.

Some sites were reserved from time to time by the town council for school sites, but they were never used for school purposes. Two sites to the north of the Canadian Pacific Railway were set aside as possible future school sites--one to the northeast part of Area I and near the location of the present steel plant, and the other to the west of Fifty-third Street. While two schools were built in Area I, neither occupied one of the sites reserved by the town council for school purposes. A site in Area II

to the west of the John W. Russell School was left free for school purposes until the Public School Board indicated that it did not want the site. A junior high school was planned to be built in Area IV at Forty-eighth Avenue and Forty-seventh Street.[3] However, classrooms were constructed for junior high school purposes at the rear of the high school located one block to the east of the proposed site. Hence, the site in Area IV was released for other than school purposes.

Some sites reserved for school purposes by the town were used for school purposes. It was mentioned in Chapter IV that as early as 1912 the site of the Camrose High School was reserved for school property.[4] The first part of the school constructed on the site was not opened until 1930. The Sifton School, built by the Camrose School Division, occupied a site reserved for school purposes.[5] The city set aside property in the new Mount Pleasant sub-division in the southwest part of the city for school purposes, and it was sold later to the Camrose Separate School District for an elementary school.[6]

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[3] Ibid.

[4] Maps in the Book of By Laws, Office of the City of Camrose.

[5] C.C.M., No. 8, April 17, 1950.

[6] Interview, Dr. J. R. S. Hambly, Superintendent of Schools, Camrose Public School District, February, 1962.

Other sites were chosen by school boards for school purposes from vacant property owned by the town. The two cottage schools, the Sparling School, and the two Bible institutes were examples.

Briefly, school sites were acquired in different manners. School sites were provided free or very nearly free by the town before 1957. The site of the Camrose School Division office and maintenance garage was not free. With the formation of the Separate School District school sites were no longer free to school systems. Since 1957 two of the three school sites purchased were acquired from private citizens. There were three of the school sites reserved by the town for schools. Others were not considered desirable by the school boards. Still other sites were chosen by the school boards from vacant property owned by the town.

Areas of school sites. Areas of school sites (to slide-rule accuracy), areas per regular classroom, and dates of opening of the school or of reservation of the sites are shown on Table 5.2. Gymnasiums, music rooms, typewriting rooms, laboratories, home economics rooms, and shops were not regarded as regular classrooms for this study. No attempt was made to show the areas of sites related to the grade levels using them since the use of some sites had varied over the years. No attempt was made to

TABLE 5.2

AREAS OF SCHOOL SITES AND AREAS PER REGULAR CLASSROOM

School	Date of opening or reservation	Area of site (acres)	Number of regular classrooms	Area per regular classroom (acres)
First School	1905		1	
John W. Russell	1907	2.84	4	.71
John W. Russell	1911	2.84	8	.36
Central Cottage	1928	.27	2	.14
Camrose High	1930	4.37	8	.55
Hillside Cottage	1947	.55	3	.18
John W. Russell	1952	2.84	8	.36
Camrose High	1952	9.27	17	.55
Sifton	1952	5.13	10	.51
Camrose High	1954	9.27	19	.49
Sparling	1954	3.57	6	.60
Saint Patrick's	1957	9.37	12	.78
Saint Patrick's	1960	9.37	16	.59
Separate S.D. site	1962	5.6	6	.93
Public S.D. site	1962	8.0	8	1.00
Composite High site	1962	36.36	23	1.58
C. L. C.	1912	23.0	4	5.75
Normal School	1915	10.0		
A. B. I.	1935	3.4		
C. L. B. I.	1940	1.2	2	.6
A. B. I.	1947	3.4	3	1.1
C. L. C.	1958	23.0	7	3.29
C. L. C.	1961	27.95	7	3.99

establish the areas of the sites covered by school building themselves.

The site of the normal school and the sites of the three private residential schools could not be compared satisfactorily with the sites of the Public School District, the Separate School District, and the Camrose School Division. The private residential schools had dormitories, and one school had a church and family residences on its campus. The normal school, with students older than high school students as well as elementary school pupils in demonstration classrooms, placed somewhat different demands upon its space than schools for Grades I to XII pupils.

The site of the first school, opened in 1905, was no longer in use for school purposes in 1962. This school had no school yard which was fenced or marked as a school yard.[7] There seemed to be doubt as to whether the building was built for a school or for a Presbyterian Church, the latter seeming to be the most probable.

The data, as shown on Table 5.2 do not indicate an increase in site areas for schools in the Public School District, the Separate School District, or the School Division until 1954, 1957, and 1962. The John W. Russell

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[7] Interview, Mrs. I. Z. Hills, first school teacher in Camrose, May, 1963.

School site, first used in 1907, originally had a site larger per classroom than any site selected until 1957. The area per classroom was reduced on the John W. Russell School site, the Camrose High School site, and the Saint Patrick's School site by rooms being added to the original buildings. While the Camrose High School site was enlarged, the increase in area was not as much proportionately as the increase in the size of the school. The Hillside Cottage School, built nineteen years after the Central Cottage School, had only .04 acre per classroom more space. The Sparling School, built two years later than Sifton School, had .09 acre more per classroom. The sites acquired for schools in 1962 showed an increase in size per proposed number of classrooms over those sites established before 1962.

The average area per regular classroom for sixty-four classrooms in the Public School District, the Separate School District, and the Camrose School Division schools in 1961-1962 (exclusive of the Fairground School) on a total site area of thirty-one acres was .48 acre. Only four of the areas per regular classroom shown on Table 5.2 were less than .48 acre. Sites purchased in 1962 were larger per classroom than .48 acre, and four of the sites (Sifton, Sparling, Saint Patrick's, and Camrose High School) were larger in 1962 than .48 acre per regular classroom.

Private schools used the school sites for purposes other than day school. Each school had dormitory facilities, and the Alberta Bible Institute had a church and three dwellings on the school site. The Camrose Lutheran College had a much larger site than the property of the other schools, and most of it was acquired in 1912. The Canadian Lutheran Bible Institute, the private school established last, had the smallest area per classroom of the private schools.

The private schools had much more space than other schools in proportion to the number of classrooms. In 1961-1962 the three private schools had a total of twelve regular classrooms and 32.55 acres of space or an average of 2.71 acres per classroom. The other schools, as was mentioned, had sixty-four regular classrooms on a total of thirty-one acres or an average of .48 acre per classroom.

In 1961-1962 either reserved or occupied school sites within the boundaries of the City of Camrose had a total area of 113.51 acres. At the same time the approximate occupied area within the city was one thousand fifty acres. This means that at least 10 per cent of the space was school sites.

Briefly, the analysis indicated that there had not been a general increase in the areas of school sites in Camrose from 1905 to 1962. The area per regular classroom

on five school sites was reduced by the addition of classrooms to the original building or by classrooms in a new building. Sites selected in 1962 were larger per regular classroom than those selected previous to that date. The average size of sites per regular classroom for private residential schools was larger than for the three school systems operating day schools. At least 10 per cent of occupied space in Camrose was used for school sites.

3. SUMMARY

Locations of School Sites

There were fifteen school sites either occupied or reserved in the City of Camrose. Out of this number ten sites were on the periphery, one site likely was on the periphery, one site was near the periphery, and three sites were in residential area when they were occupied or reserved.

Acquisition of School Sites

Acquisition of sites was influenced by several factors. There were eleven of the fifteen sites acquired from the town or city, one site likely was acquired from the village, one site was reserved in an area of future development, and two sites were purchased from private citizens. Before 1957 when the Separate School District

was formed, school sites were provided free or nearly free by the town, and sites were on land formerly owned by the town. Some sites reserved by the town or city council for school sites were never used for school purposes, while other sites reserved by the town council were used for school sites. Some vacant property owned by the town was chosen by school boards for school sites.

Areas of School Sites

There was no regular or consistent increase in area of sites per regular classroom for schools in the Public School District, the Separate School District, or the Camrose School Division. The sites of five schools were reduced in area per regular classroom by the enlargement of the schools. Sites acquired in 1962 showed an increase in size per regular classroom over those acquired previous to 1962. The area of the private school site acquired earliest was the largest while the area of the site acquired latest was the smallest of the private school sites. The average size of sites per regular classroom for private residential schools was larger than for the three school systems operating day schools. At least 10 percent of the occupied space in the city was used for school sites.

School Sites and the Ecological Processes

In the analysis completed in this and the two pre-

ceding chapters it was seen that the locating, acquiring, and maintaining of school sites in the growing community of Camrose were to a degree a consequence of ecological processes. The ecological processes of community growth could be seen within the growth of the school systems in the community. This conclusion is emphasized in the remaining paragraphs of this chapter as an attempt is made to summarize, in ecological terms, the results of a detailed analysis.

Concentration. There were fifteen school sites concentrated within the City of Camrose. The Camrose Public School District, Camrose Separate School District, Camrose School Division, and three private schools had sites in the city. The concentration which began in 1905 continued to 1962.

With the establishment of the Village of Sparling in 1905 there was a concentration of formal elementary school education in the first school which was perhaps a church building. By 1907 formal elementary and secondary school education was concentrated at the site of the present John W. Russell School. With this beginning public education has continued to be concentrated within the boundaries of the city.

Camrose was the scene of concentration of normal

school education from 1912 to 1938. The school was first operated on the John W. Russell School site. In 1915 the provincial government opened a school on a site owned by the province.

Three church-affiliated private schools concentrated pupil personnel in Camrose. Classes were begun on the John W. Russell School site by the Camrose Lutheran College in 1909, and on the Camrose Lutheran College campus in 1912. The Canadian Lutheran Bible Institute concentrated Bible school personnel in Camrose in 1932. Classes, first held in the Central Cottage School, were later transferred to the site of the Canadian Lutheran Bible Institute. In 1935 a third private school, the Alberta Bible Institute, concentrated pupil personnel in Camrose when it began its first classes.

The Camrose School Division had its administrative work and some of its pupil personnel concentrated in Camrose. In 1941 an administrative office was opened. A maintenance garage was opened in 1950. Pupil and professional personnel from eight rural school districts surrounding Camrose were concentrated at the Sifton School in 1952.

The Camrose Separate School District began the operation of its first school in 1957. Roman Catholic pupil personnel who were concentrated in the urban area

attended the school. In addition pupil personnel from the rural area of the Camrose Separate School District and some Roman Catholic pupils from the Camrose School Division were concentrated at the separate school site.

The competitive process seems to be associated with the concentration of private school sites in Camrose. Free grants of land were made to church-affiliated residential schools. It seems apparent that the town administrators wanted the private schools located in Camrose. Also, it seems probable that these schools would be established in the urban centre which offered them the best financial arrangements. By offering a free site Camrose could compete more effectively with other urban centres for the schools.

The manifest reason for Camrose encouraging the establishment of private schools by free grants of school sites within its boundaries was not revealed in this study. Two possible latent reasons seem to be that Camrose was religiously oriented, and that the schools were expected to assist Camrose to become a dominant urban centre. Associated with these reasons are economic and political implications. The schools could have been expected to contribute to increased trade at the trading centre. Town councillors, for political reasons, may have supported the requests of churches for school sites. The largest concen-

tration of Scandinavian population in Alberta is concentrated in the general Camrose area.[8] Town administrators may have been governed by the wishes of their electors. Whatever the reason for desiring the private schools, it seems to the researcher that Camrose was more able to compete effectively with other urban centres if its school facilities were attractive and varied.[9]

Free grants of land for school sites for the provincial normal school and for the Sifton School operated by the Camrose School Division could have contributed to the concentration of these school facilities in Camrose. To grant a free site for the normal school helped Camrose compete with other urban centres for this school. The free site for the divisional school could have influenced its eventual location within the boundaries of the urban centre.

Economic motives, while not manifest reasons revealed in research for this study, are possible latent reasons for the free grants of sites for the provincial normal school and for the Sifton School. Attractive school facilities could assist the urban community in economic competition

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[8] Alberta Department of Industries and Labour, _Alberta Facts and Figures_ Bureau of Statistics (Edmonton: King's Printer, 1950), p. 41.

[9] This is an area for historical research.

with other communities since they could attract people to the trading centre. The researcher recalls arguments presented in 1938 in favor of retaining the normal school in Camrose. The school was claimed to contribute to the economic welfare of many of the citizens of the town.

Centralization. Since formal education was centralized in the first public school in Camrose in 1905, centralization of education facilities in the urban centre was extended. The John W. Russell School was the site of centralized public school education in 1907. Normal school classes were centralized in the provincial normal school in 1915. The three private schools were centres of church-sponsored education. In 1952 there were eight rural schools centralized at the Sifton School. Roman Catholic pupil personnel were first centralized at the Saint Patrick's School in 1957.

Sub-centralization. While the three schools offering Department of Education programs, the three private schools, and the provincial normal school illustrate centralization of pupils for specific purposes, they also illustrate sub-centralization of education generally. Education in Camrose, first centralized in the Public School District, came to pass to seven administrative bodies. Each school system established schools on its sites.

Sub-centralization took place within the Public and Separate School Districts. There were six sites occupied by school buildings, two sites reserved, and one site used temporarily in the Public School District. The Separate School District had one site occupied by a school building, and one site purchased for future construction of a school.

The cost of school property seems to be related to the competitive process of sub-centralization. Before the formation of the Camrose Separate School District, as was stated in Chapter IV, school sites were provided free or very nearly free by the town. With the formation of a second tax-supported school system in the urban centre, competition for school sites seemed more probable. At least part of the city's solution to the problems of competition in sub-centralization seemed to be to sell the school sites to the school districts. Another factor was that city-owned land was no longer always suitable for school sites, and in fairness to the school district that had to buy a site from a private citizen the city sold its school sites also.

There were other probable reasons for the change in the city's policy of providing free sites for schools. Several of the sites were provided free at a time when land was cheap in comparison to its value in 1957. In

other words there was little or no competition for the space used in sub-centralization. By 1957 land value had increased, and land was too valuable to give away.

Segregation. The ecological process of segregation of areas for school sites was at work to a limited extent. After the construction of the Camrose High School on the east edge of the urban community land was reserved and later was used for school purposes to the east of the high school site. This became the location of the Camrose Junior High School, of the Sifton School, and ofschool bus garages owned by the Camrose School Division. The Camrose Lutheran College acquired a large site on the south edge of Camrose in 1912. The college building program was expanding, and new buildings were constructed on the site which was enlarged in 1961. Segregation in the Camrose Lutheran College location in the city seemed to be related to the Lutheran Church as well as to school buildings since the site of a Lutheran home for aged persons and a chronic hospital joined the site of the Camrose Lutheran College. The Alberta Bible Institute with a residential school, a tabernacle, dormitories, staff residences, and a church located on the site showed segregation also. There was segregation by area when one examines Area II. There were four school sites in Area II within a distance of two blocks.

Invasion. Invasion for school sites occurred in developed and undeveloped areas of the city. The two cottage schools and the Canadian Lutheran Bible Institute were built on sites in a residential district. There were eight sites obtained from 1907 to 1957 that were on the periphery. These sites invaded the undeveloped fringe area of the urban community. The Separate School District acquired a site from the city in 1962 which had been reserved for school purposes in a developing residential area on the fringe of the city. Here the invasion for school purposes was done by the city and not the school system. The two Public School District sites acquired in 1962 invaded the agricultural area on the southwest side of the city.

Three schools invaded area adjacent to their sites. Streets and avenues were closed at the sites of the Camrose Lutheran College, the Camrose High School, and the Saint Patrick's School. The Camrose High School site was enlarged by invading space on its east boundary. The Camrose Lutheran College enlarged its site by invasion on the southeast.

The intensity of competition for space in the urban community appeared to be related to the invasion process. The three sites which invaded the residential district in Area II in 1928, 1940, and 1947 were small. Open space in

the developed area was limited at the time of the establishment of the school sites. In this period there was not intensive competition for land. The city was growing slowly. School sites on the periphery, where competition for space was less keen, were larger than the school sites in Area II. Since new sites acquired in 1962 were larger generally than sites purchased before that time, the latent reason could be to meet future competition for space.

Invasion for school sites was done by the city council as well as by school boards. Sites had been reserved by the town for school purposes throughout the history of the community. Some of these sites were used while others were considered undesirable by the school boards. As already mentioned the site purchased by the Separate School District in 1962 was reserved originally by the city for school purposes. With the Battle River District Planning Commission as advisor in matters of physical expansion and land use, it may be expected that in the future the city administration will share in invasion of space for school sites.

In the invasion of space for school sites some school systems competed with each other. The Public and Separate School Districts made requests to the city for the site which the city had reserved for an elementary school in Area V or southwest Camrose. The city sold the

site to the Separate School District. When the Camrose School Division planned to build a school to the east of the Camrose High School site, the Camrose Public School board asked the town to enlarge the Camrose High School site with space which at first was intended for the Camrose School Division. The request of the Public School District was granted, and the Camrose School Division site was located further to the east than originally planned.[10]

Throughout the history of Camrose space was invaded temporarily for school purposes. The first two school classrooms in the town were in church buildings. The Camrose Lutheran College used the Heatherbrae Hotel as a residence and classroom space on the John W. Russell School site before the college building was constructed. The normal school classes were housed in the John W. Russell School previous to the opening of the normal school building in 1915. Before its building was completed, the Canadian Lutheran Bible Institute occupied space in the Central Cottage School. Space for the first industrial arts classes was rented in the Post Office Building. The Public School District rented a house for space for the first home economic classes. An exhibits building was used

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[10] Interview, C. Killam, former chairman of the Camrose Public School Board, May, 1964.

for temporary classrooms for the Public School District in 1961-1962 since insufficient space was available in the schools.[11]

There was invasion of space within the school systems. Some schools or rooms, originally planned for one grade level, were used later by different grade levels. Changes in curricula sometimes resulted in changes in the use of school space. Playground space on sites was taken for space for extensions to existing buildings or for new buildings.

One school site was invaded for purposes unrelated to schools. Part of the site of the Alberta Bible Institute was taken by the provincial government for expansion of the Rosehaven site. To compensate for invasion the institute invaded space to the west of the site released to Rosehaven.

Eventual commercial invasion of school sites in

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[11] One kind of invasion which has not been mentioned in this study may be noted for historical purposes. The writer recalls that temporary accommodation was provided in the Lutheran, United, and Roman Catholic Churches, the Elks' Hall, the Sea Cadet Hut, an auxiliary building at Rosehaven, and a small office building belonging to the town, when the John W. Russell School burned in 1950. The Public School District used one classroom in the Sifton School for a short period while a new city school building was being completed. For a short period in the fall of 1952 the pupils of the Sifton School were housed in buildings on the Fairgrounds since the Sifton School was not ready for occupancy at the first of September.

Area II seems imminent to the researcher. Three of the schools are within one-half block of the commercial zone--a zone which has invaded space on its west edge. The small site of the two-room Central Cottage School built in 1928 seems destined to be invaded before the sites of the John W. Russell School and the Canadian Lutheran Bible Institute where the buildings are larger and were built in 1952, and 1940 and 1953 respectively. The latter schools could impede westward expansion of the commercial zone for a time.

Briefly, the ecological process of invasion related to school sites was evident in at least eight ways: (1) in site locations, (2) in space adjacent to school sites, (3) in the size of school sites, (4) in urban administration policies, (5) in competition with other school systems, (6) in temporary accommodation for school personnel, (7) in the school system itself, and (8) in external invasion of school sites.

Succession. The ecological process of succession seemed to be evident on school sites only. Once land was obtained and a school was built on a site, succession may be said to have occurred. The only exceptions to invasion followed by succession in the school sites of Camrose was the instance of the Alberta Bible Institute having some of its space withdrawn, and of the provincial normal school building being used for other than school purposes.

What will be the nature of school sites in this urban community in the future? Site areas purchased in 1962 suggest that larger sites than were acquired in the past may become the norm. However, factors of community values, of urban growth, of Department of Education regulations, of school curricula, of the Battle River Planning Commission, and of the diffusion of knowledge about school sites elsewhere in Canada and the United States no doubt will be important. It may be assumed that the combined effect of these factors will find expression in the ecological processes involved in locating, acquiring, and maintaining school sites. It is probable that the manifest reasons for having larger school sites will be stated in terms of pupil needs and school programs. The analysis completed here suggests that larger school sites may be desired also for latent reasons. One latent reason might be to meet future competition for space.

The ecological analysis concluded in Chapter V has been concerned with the locations of schools. The ecological analysis of school personnel and of the community use of school property constitute Part III and Part IV respectively.

PART III. THE ECOLOGY OF THE SCHOOL PERSONNEL IN THE SPRING OF 1962

CHAPTER VI

THE DISTRIBUTION OF PUPIL PERSONNEL

1. INTRODUCTION

This chapter is an analysis of pupil personnel in the city of Camrose in the spring of 1962 in relation (1) to the distance between their places of residence and the schools they attended, and (2) to the area in the city in which they resided. For this study pupil personnel were divided into four sub-groups as follows: (1) elementary school, (2) junior high school, (3) senior high school and junior college, and (4) two private schools.

In the analysis large maps of Camrose and colored map pins were used to determine the distribution of pupils attending each school in the city, with the exception of the Sifton School. This school was omitted from the analysis because all pupil personnel lived outside Camrose city limits, arriving and departing daily by school bus. Concentric circles with the centre at the location of the school and with radii increasing by a distance representing one-quarter of a mile were drawn for each school. The number of pupils for each school was recorded by distance

and by areas in which the pupils lived. The results of the map analysis are shown in the tables and maps of the present chapter.

Home addresses for 1,815 out of 1,843 pupils were obtained directly from school offices or from the office of the superintendent of the Public School District. Except for the twenty-eight pupils whose addresses could not be ascertained, the analysis is of the entire pupil population residing in the City of Camrose and of rural pupils attending schools of the Camrose Public and the Camrose Separate School Districts and attending the Camrose Lutheran College.

The aim of the analysis is to answer five questions, three dealing with distribution of pupil personnel by distance from the schools that they attended and two dealing with the distribution of pupil personnel by areas in which they resided in the city. The questions are:

1. How far did the pupil personnel live from the school attended?

2. How well did the distance travelled by pupil personnel conform to the distance limits as suggested in the literature reviewed?

3. To what extent were residences of pupils concentrated in relation to school locations?

4. In what city areas did the pupils live?

5. To what extent were school attendance boundaries determined by traffic arteries and by natural boundaries?

The analysis undertaken in this chapter terminates with a summary of the findings as they relate to each of the five questions. The conclusions and implications arising from the analysis are deferred until Chapter XIII.

2. DISTANCE FROM SCHOOL

Elementary Schools

The distances travelled to school by elementary school pupil personnel in the Public School District and the Separate School District are presented in Table 6.1. The table shows the percentage of pupil personnel in each school in each district, and in the combined school districts who travelled specified distances to school. The distribution of pupils is shown on Maps 4 to 9, pages 190 to 195 , by distance and by city areas.

Distance pupil personnel lived from school. The Public School District had a total of six hundred thirty-one elementary school pupils in attendance at six schools in the city. Out of this number 34 per cent lived zero to one-quarter mile from school, 36 per cent lived one-quarter to one-half mile from school, 19 per cent lived

TABLE 6.1

DISTRIBUTION IN PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL BY DISTANCE FROM SCHOOL 1961-1962

Distance in miles	A	B	C	D	E	F	Sub-total	G*	Totals
0 to ¼	34%	34%	30%	55%	14%	78%	38%	25%	34%
¼ to ½	46	31	57	33	40	17	36	18	31
½ to ¾	11	35	7	2	37	2	19	29	22
¾ to 1	4	0	3	1	4	1	2	12	5
1 to 1¼	4	0	0	0	1	0	1	2	1
1¼ to 1½	0	0	0	0	0	0	0	1	0.1
Rural	2	0	3	9	5	3	4	13	7

*The letters represent the seven elementary schools as indicated below. The number of pupils in attendance is given.

A - Central Cottage School, N = 56;

B - Fairground School, N = 68;

C - Hillside Cottage School, N = 70;

D - Junior High School, N =106;

E - John W. Russell School, N =222;

F - Sparling School, N =109;

Sub-total - Attendance in the Public School District, N = 631;

G - Saint Patrick's School, N =234;

Totals - Attendance in the Public and the Separate School Districts, N = 865.

one-half to three-quarters mile from school, and 2 per cent lived three-quarters to one mile from school, 1 per cent lived one to one and one-quarter miles from school, and 4 per cent lived in the rural area. This means that there were 74 per cent within one-half mile and 93 per cent within three-quarters mile of school.

Schools in the Public School District showed a wide variation in the distances pupils were expected to traverse when going to school. The Central Cottage School, housing Grades I and II, had 80 per cent of the pupil personnel living within one-half mile of the school. The Hillside Cottage School, with Grades II, III, and IV, had 87 per cent of its pupils within one-half mile of school. The Junior High School, with Grades I, II, and III, had 88 per cent of its pupils living within one-half mile of the school. The Sparling School, the only public school to the north of the Canadian Pacific Railway, had 95 per cent of its Grades I to IV pupils living within one-half mile of the school.

The John W. Russell School and the Fairground School showed a much lower percentage of pupils living within the one-half mile radius of the school, but percentages within the three-quarter mile radius compared favorably with other schools. The John W. Russell School, on an old site on the west edge of the commercial area, had

54 per cent of its Grades IV to VI classes living less than one-half mile but 91 per cent living less than three-quarters mile from school. The Fairground School was on the east edge of the forty acre fairgrounds, on the west edge of a narrow strip of a new housing development, and near the sites of the hospitals and homes for senior citizens--all areas with either little or no school population. This school had 65 per cent of its pupils, Grades I, II, III, and V, living within one-half mile and 100 per cent living within three-quarters mile of the school.

The analysis for the Separate School District, with its school on the north edge of the city, presented a different picture. There were 25 per cent of the elementary school pupils living within one-quarter mile, 43 per cent living within one-half mile, and 72 per cent living within three-quarters mile of the school. There were 28 per cent that lived more than three-quarters mile from school. Pupils resident in the rural area made up 13 per cent of the pupil personnel.

The last column of Table 6.1 shows the combined data for both school systems. It is seen that of all Camrose elementary school pupils, 34 per cent lived within one-quarter mile, 31 per cent lived from one-quarter to one-half mile, 22 per cent lived from one-half to three-quarters mile, 5 per cent lived from three-quarters to one mile, and

2 per cent lived from one to one and one-half miles from the school. There were 7 per cent living in the rural area. This means that 65 per cent lived less than one-half mile from school, and that 87 per cent lived less than three-quarters mile from school.

Distances travelled compared with recommended distances. Maximum distances, as recommended in the literature reviewed, for elementary school pupils to walk to school varied. Suggested maximums were one-quarter mile,[1] one-half mile,[2] and three-quarters mile.[3]

None of the elementary schools satisfied the one-quarter or the one-half mile maximum distance for pupil personnel to travel to school. Only the temporary classrooms at the Fairground School had 100 per cent of those in attendance within three-quarters mile of the school. The schools of the Public School District more nearly satisfied the one-quarter and one-half mile maximum

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[1] Noel Dant, "Edmonton: Practical Results of Planning Measures Since 1950," Community Planning Review, Volume IV, (1954), pp. 31-34.

[2] Lewis Keeble, Principles and Practice of Town and Country Planning (London: The Estates Gazette Ltd., 1952, 1959), p. 164.

[3] Merle R. Sumption and Jack L. Landes, Planning Functional School Buildings (New York: Harper and Brothers Publishers, 1957), p. 168.

travelling distance for elementary school pupils than did the school of the Separate School District. There were 13 per cent of the elementary school pupils travelling more than three-quarters mile to school, the largest maximum distance allowed by any of the literature to which reference was made.

Concentration of pupils' residences in relation to school location. There were three summaries of data used to determine the concentration index of elementary school pupil personnel shown on Table 6.1a. Map 3 was used to ascertain locations of residential areas. Maps 4 to 10 were used to estimate the occupied area in each zone; for example, 0 to $\frac{1}{4}$ mile zone, $\frac{1}{4}$ to $\frac{1}{2}$ mile zone. Table 6.1 indicates the actual distribution of pupils in each zone. The theoretical distribution is the fraction the occupied area in a zone is of the total occupied area in the zones considered times the total actual distribution in the zones considered. The concentration index is the fraction the actual distribution is of the theoretical distribution. If this fraction is greater than one, concentration is indicated. If the fraction is less than one, dispersion is evident.

The degree of concentration of elementary school pupil personnel is indicated in Table 6.1a. The table

shows some variations among schools. There were four schools in the Public School District that had a concentration of pupils' residences in Zone 1 and dispersion in Zone 2 or Zones 2 and 3. One school in the same school district had a concentration of pupils' residences in Zone 2, and one had a concentration of pupils in Zones 1 and 3. In the Separate School District pupils were concentrated in Zones 1 and 3 and dispersed in Zones 2 and 4. Concentration in Zonel for all but one school, dispersion in Zone 2 for all but one school, and concentration in Zone 3 at two schools only, seems to suggest a tendency for pupils' residences to be concentrated near the schools. The most marked concentration occurred around Saint Patrick's Separate School, where the concentration index in Zone 1 was 3.13.

Summary. The largest maximum distance mentioned in literature reviewed for elementary school pupil personnel to walk to school was three-quarters mile. There were six hundred thirty-one elementary school pupils in the Camrose Public School District in attendance at six schools, and 74 per cent lived within one-half mile and 93 per cent lived within three-quarters mile of school. Only two schools in the Public School District had less than 80 per cent of the pupils living within one-half

TABLE 6.1a

ELEMENTARY SCHOOL PUPIL CONCENTRATION IN RELATION TO SCHOOL ATTENDED

School	Zone	Occupied Area a	Distribution Theoretical b	Actual c	Concentration Index d
A	1	.75	40%	34%	.85
	2	.75	40	46	1.15
		1.50		80	
B	1	.5	19	34	1.79
	2	1.5	57	31	.54
	3	.63	24	35	1.46
		2.63		100	
C	1	.88	24	30	1.25
	2	2.25	63	57	.90
		3.13		87	
D	1	.9	48	55	1.14
	2	.75	40	33	.83
		1.65		88	
E	1	.75	11	14	1.27
	2	2.8	42	40	.95
	3	2.5	38	37	.97
		6.05		91	
F	1	.9	36	78	2.17
	2	1.5	59	17	.29
		2.4		95	
G	1	.5	8	25	3.13
	2	1.5	23	18	.78
	3	1.67	26	29	1.12
	4	1.75	27	12	.44
		5.42		84	

Note: The following is a guide to the reading of the table:

A: Central Cottage	E: John W. Russell
B: Fairground	F: Sparling
C: Hillside Cottage	G: Saint Patrick's
D: Junior High School Elementary	

a--Occupied area: estimated

b--Theoretical distribution:

$$\frac{\text{Occupied area in zone}}{\text{Total occupied area}} \times \text{total actual distribution}$$

c--Actual distribution: See Table 6.1

d--Concentration index: $\frac{\text{Actual distribution}}{\text{Theoretical distribution}}$

Concentration: >1
Dispersion: <1

mile of the school--the Fairground School and the John W. Russell School. Grades V and VI were taught in these schools only. It is highly probable that the pupils travelling the longest distance to these schools were from Grades V and VI although this can not be ascertained from the analysis.

The Separate School District had one school only, and it was located on the periphery of the city. There were 43 per cent living within one-half mile, and 72 per cent living within three-quarters mile of the school. There were 13 per cent of the pupils from the rural area.

For the two school systems 65 per cent and 87 per cent of the pupils lived one-half and three-quarters mile respectively from the schools. The schools of the Public School District more nearly than the schools of the Separate School District satisfied recommended maximum distances (one-quarter, one-half, and three-quarters mile to walk to school.)

There was evidence of concentration of pupils' residences near the schools. There was concentration in Zone 1 for all but one school, dispersion in Zone 2 for all but one school, and concentration in Zone 3 at two schools only.

Junior High Schools

The distance that junior high school pupils lived from the schools which they attended in shown on Table 6.2. The distribution of pupils is shown on Maps 11 to 14, pages 204 to 207 by distance and by city areas. The Public School District had junior high school classes in three schools while all the junior high school classes of the Separate School District were located in the Saint Patrick's School.

Distance pupil personnel lived from school. There were two hundred ninety junior high school pupils attending the schools of the Public School District. Out of this number 34 per cent lived less than one-quarter mile, 65 per cent lived less than one-half mile, 80 per cent lived less than three-quarters mile, and 90 per cent lived less than one mile from school. There were 5 per cent of the pupils from the rural area.

When the three schools were considered separately, some differences were evident. The Sparling School, the only public school to the north of the Canadian Pacific Railway, had 99 per cent of its junior high school personnel within three-quarters mile of the school. The John W. Russell School, located near the centre of the

TABLE 6.2

DISTRIBUTION IN PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL BY DISTANCE FROM SCHOOL 1961-1962

Distance in miles	A	B	C	Sub total	D*	Totals
0 to ¼	28%	33%	54%	34%	27%	32%
¼ to ½	31	26	37	31	15	27
½ to ¾	14	26	8	15	32	19
¾ to 1	13	10	0	10	12	11
1 to 1¼	6	2	0	4	3	4
1¼ to 1½	1	0	0		0	
Rural	7	4	2	5	12	7

*The letters represent the four junior high schools as indicated below. The number of pupils in attendance is given.

A - Camrose Junior High School, N = 180
B - John W. Russell School, N = 58
C - Sparling School, N = 52
Sub-total - Attendance in Public School District, N = 290
D - Saint Patrick's School, N = 101

Totals - Attendance in the Public and the Separate School Districts, N = 391

city, had 85 per cent of its pupils within three-quarters mile and 95 per cent within one mile of the school. There were 4 per cent from the rural area. The Junior High School, on a site near the east edge of the city, had 73 per cent of its pupils within three-quarters mile and 86 per cent within one mile of the school. There were 7 per cent from the rural area.

The Separate School District had one hundred one junior high school pupils. There were 74 per cent living within three-quarters mile of the school and 86 per cent living within one mile of the school. There were 12 per cent of the junior high school pupils from the rural area.

There were altogether three hundred ninety-one junior high school pupils attending schools in Camrose. It was found that 78 per cent of the pupils lived within three-quarters mile, and that 89 per cent of the pupils lived within one mile of the school which they attended. Out of the three hundred ninety-one junior high school pupils, 7 per cent came from the rural area. Thus only 4 per cent in the city lived more than one mile from a junior high school. These pupils attended the Saint Patrick's School and the Camrose Junior High School.

Distances travelled compared with recommended distances. Maximum distances for junior high school pupil personnel to walk to school, as recommended in the literature

reviewed, were one mile[4] and one and one-half miles.[5] Since 89 per cent of the junior high school pupils lived less than one mile from school, and since 7 per cent lived in the rural area, only 4 per cent in the city had to walk more than one mile to school. This compares favorably with the recommended maximum distances for junior high school pupils to walk to school.

Concentration of pupils' residences in relation to school location. There were three summaries of data used to determine the concentration index of junior high school pupil personnel shown on Table 6.2a. Map 3 indicates the locations of residential areas, Maps 11 to 14 indicate the occupied area in each zone, and Table 6.2 shows the actual distribution of pupils in each zone. The concentration index was established in the same manner as was described for the elementary school pupil personnel.

There is evidence indicated on Table 6.2a of concentration of pupils' residences in three zones. Pupils were concentrated in Zone 1 at all schools, in Zone 2 at two schools, and in Zone 3 at one school only. Beyond

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[4] Innisfail General Plan (Red Deer: Red Deer District Planning Commission, 1960), p. 40.

[5] Sumption and Landes, op. cit., p. 168.

TABLE 6.2a

JUNIOR HIGH SCHOOL PUPIL CONCENTRATION IN RELATION TO SCHOOL ATTENDED

School	Zone	Occupied Area	Distribution		Concentration Index
			Theoretical	Actual	
A	1	.75	13%	28%	2.15
	2	1.	18	31	1.72
	3	1.66	30	14	.47
	4	1.4	25	13	.52
		4.81		86	
B	1	.50	17	33	1.94
	2	.75	26	26	1.
	3	1.25	43	26	.60
		2.50		85	
C	1	.75	46	54	1.17
	2	.75	46	37	.80
		1.50		91	
D	1	.67	11	27	2.45
	2	1.	17	15	.88
	3	1.67	28	32	1.14
	4	1.75	30	12	.40
		5.09		86	

Note: The following is a guide to reading the table:

A: Camrose Junior High

B: John W. Russell

C: Sparling

D: Saint Patrick's

Zone 3 there was dispersion at all schools. Thus, pupils' residences were concentrated in Zones 1, Zones 1 and 2, or Zones 1 and 3.

Summary. The distance which was travelled to the junior high schools in Camrose was less than one mile for all but 4 per cent of the pupils who were resident in the city and 7 per cent of the pupils who were from the surrounding rural area. Thus, the distance which was travelled to school by junior high school pupils in the city satisfied the maximum distances as suggested in the literature (one mile and one and one-half miles) for all but 4 per cent if one mile is the maximum and for all if one and one-half miles is the maximum travelling distance.

In the Camrose Public School District Grades VII and VIII were taught in three schools and Grade IX was taught in one school only. The school locations satisfied the one and one-half miles maximum distance for pupils resident in the city to walk to school. It was assumed that pupils travelling the greatest distance were Grade IX pupils since a higher per cent of pupils at the Camrose Junior High School, where Grade IX was taught, travelled a greater distance than at the other schools.

In the Camrose Separate School District those junior high school pupils resident within the city satisfied the

maximum distance of one and one-half miles but not the one mile maximum recommended in literature to walk to school.

There is evidence of concentration of junior high school pupils' residences in three zones--Zone 1, Zones 1 and 2, or Zones 1 and 3. Concentration of pupils' residences was within three-quarters mile of school for all personnel. Beyond three-quarters mile pupils' residences were dispersed.

Senior High Schools and a Junior College

Senior high school and junior college classes were housed in three buildings in the city. Each building was located on a site on the periphery of the city. The high school of the Separate School District was on the north edge of the city, and the Public School District was near the east edge of the city. The Camrose Lutheran Junior College was on the south edge of the city,

Data for the study were obtained from the school offices. The Public School District had two hundred sixty-three high school pupils and the distribution of two hundred sixty-three pupils was studied. One address was inadequate for exact location. The Separate School District, with seventy high school pupils, had 100 per cent in the study of pupil distribution. There were one

hundred ninety-three pupils in attendance at the Camrose Lutheran Junior College. These pupils attended Grades X, XI, XII, and junior college classes. Adequate addresses for use in this study were supplied for one hundred sixty-six of these pupils. Out of a total of five hundred twenty-six high school and junior college pupils in the city, four hundred ninety-eight or 95 per cent were included in the study of the distribution of pupil personnel.

TABLE 6.3

DISTRIBUTION IN PERCENTAGE OF SENIOR HIGH SCHOOL AND JUNIOR COLLEGE PUPIL PERSONNEL BY DISTANCE FROM SCHOOL 1961-1962

Distance in miles	Public S.D. N=262	Separate S. D. N=70	Lutheran College N=166	Totals N=498
0 to ¼	14%	31%	4%	13%
¼ to ½	20	20	8	16
½ to ¾	23	24	8	18
¾ to 1	20	11	4	13
1 to 1¼	7	6	1	5
1¼ to 1½	0	0	1	
Rural	16	7	11	13
On campus	0	0	64	21

Distance pupil personnel lived from school. The distance senior high school and junior college pupils travelled to school is shown in Table 6.3. The distribution of pupils is shown by distance and by city areas on Maps 15 to 17, pages

216 to 218 . Only one pupil resident in the city--one attending the Camrose Lutheran College--travelled more than one and one-quarter miles to school. There were 57 per cent in the Public School District, 75 per cent in the Separate School District, and 84 per cent in the Camrose Lutheran College who lived within three-quarters mile of the school. For the entire city the percentage of pupils living within three-quarters mile of the school they attended was 68. A circle with a radius of one mile encompassed 77 per cent, 86 per cent, and 88 per cent of the senior high school pupils attending school in the Public School District, the Separate School District, and the Camrose Lutheran College respectively. This represented 81 per cent of the senior high school pupils in the city. The rural school pupils in attendance made up 13 per cent of the total high school population.

Distances travelled compared with recommended distances. Literature reviewed recommended that the maximum distance for senior high school pupil personnel to walk to school is two miles.[6] Further, it was stated that

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[6] Sumption and Landes, loc. cit.; Innisfail General Plan, loc. cit.

secondary schools cannot be as accessible as elementary schools and that they may have to be located on the edge of the city.[7]

The high schools in Camrose satisfied the requirements of a maximum distance of one and one-half miles for pupils to travel to school since only the rural pupils lived more than one and one-half miles from school. Within the city only 7 per cent in the Public School District, 6 per cent in the Separate School District, and 2 per cent at the Camrose Lutheran College lived more than one mile from the school which they attended. These figures represented 5 per cent for the city.

Concentration of pupils' residences in relation to school location. To determine the concentration index shown on Table 6.3a of senior high school pupil personnel three summaries of data were used: Map 3 indicating residential areas, and Maps 15 to 17 and Table 6.3 indicating pupil distribution. The concentration index was established in the manner described for elementary school pupil personnel.

The concentration of pupils' residences shows similarity and differences for the schools. Each school had a concentration of pupils' residences in Zone 1. This was

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[7] Keeble, loc. cit.

TABLE 6.3a

SENIOR HIGH SCHOOL PUPIL CONCENTRATION IN RELATION TO SCHOOL ATTENDED

		Occupied	Distribution		Concentration
School	Zone	Area	Theoretical	Actual	Index
A	1	.75	11%	14%	1.27
	2	1.50	23	20	.87
	3	1.67	25	23	.92
	4	1.17	18	20	1.11
		5.09		77	
B	1	.60	15	31	2.05
	2	.75	18	20	1.11
	3	1.25	31	24	.77
	4	.88	22	11	.50
		3.48		86	
C	1	.25	6	68	11.33
	2	.75	19	8	.42
	3	1.60	40	8	.20
	4	.88	22	4	.18
		3.48		88	

Note: The following is a guide to reading the table:

A: Camrose Senior High

B: Saint Patrick's

C: Camrose Lutheran College

especially marked at the Camrose Lutheran College, a residential school. Saint Patrick's School had pupils concentrated in Zones 1 and 2. Camrose High School had concentration of pupils in Zones 1 and 4. While pupils tended to concentrate near the schools largely, the Camrose High School indicated some variation from this tendency.

Summary. The maximum distance to walk to senior high school, as recommended in the literature reviewed (two miles), was not exceeded within the city. Only rural pupils in attendance at the senior high schools in Camrose lived more than one and one-half miles from school. Within the city only 5 per cent of the pupils lived more than one mile from school. The per cent of high school pupils travelling more than three-quarters mile to school was highest in the Public School District.

Senior high school pupils' residences were concentrated largely in Zone 1. This was especially marked at the Camrose Lutheran College. At the Saint Patrick's School there was concentration in both Zones 1 and 2. The Camrose High School showed concentration in Zones 1 and 4.

Two Private Schools

There were two private residential schools, Bible institutes, located in Camrose. The Alberta Bible Institute

was on a site in Area V and the Canadian Lutheran Bible Institute was in Area II.

Distance pupil personnel lived from school. Almost 100 per cent of these private school pupils lived on the school campuses. The Alberta Bible Institute, with an enrolment of thirty pupils, had two students only that did not live in the residence. One lived on the campus and one lived within two blocks of the school. The Canadian Lutheran Bible Institute had thirty-one pupils. There was one pupil not resident on the campus who lived three blocks from the school.

Concentration of pupils' residences in relation to school location. There is evidence that pupils concentrated on the campus at the Bible institutes. There were fifty-eight out of sixty-one pupils or 95 per cent living in the residences and 97 per cent living on the campuses.

3. CITY AREAS

In this part of Chapter VI the distribution of elementary school pupils, junior high school pupils, senior high school pupils, and private school pupils is recorded according to the city areas in which the pupils lived. The data were analyzed to determine in which city areas pupils

lived, and to ascertain whether school attendance boundaries were determined by traffic arteries and natural boundaries. Traffic arteries and natural barriers were the city area boundaries defined in in this study.

The city areas in Camrose, as defined in this study, are described in Chapter III. The boundaries of the city areas are indicated on Map 3, page 75. Area 1 is the section of the city to the north of the Canadian Pacific Railway. Area II is bounded by Fiftieth Street on the east, by Highway 13 on the south, and by Mirror Lake and Stoney Creek on the west. To the east of Fiftieth Street and to the Canadian National Railway, to the south of the Canadian Pacific Railway, and to the north of Highway 13 is Area III. All that part of the city to the south of Highway 13 and to the east of Stoney Creek is Area IV, and all to the south of Highway 13 and to the west of Stoney Creek is Area V. Area VI is to the north of Highway 13 and to the west of Mirror Lake and Stoney Creek.

Elementary Schools

The distribution of elementary school pupils of the Camrose Public School District and of the Camrose Separate School District is shown in Table 6.4 and on Maps 4 to 10 inclusively.

Areas where pupils lived. The elementary school

pupil personnel of the Public School District came from all city areas as is indicated in Table 6.4. There were 21 per cent, 21 per cent, 13 per cent, 22 per cent, 15 per cent, and 4 per cent in Areas I, II, III, IV, V, and VI respectively.

The Separate School District, with one school in the city, had its highest concentration of elementary school pupils, as shown on Map 10, page 198 , in Area I where the school was located. There were 36 per cent in Area I, 21 per cent in Area II, 15 per cent in Area III, 8 per cent in Area IV, 6 per cent in Area V, and 1 per cent in Area VI.

The totals for the two school districts are shown on Table 6.4. These totals show where the concentration in the city of elementary school pupils was. Area I, with a public and a separate school, had 25 per cent; Area II, with three public elementary schools, had 21 per cent; Area III, with one public elementary school, had 13 per cent; Area IV, with no elementary school, had 18 per cent; Area V, with three temporary public elementary school classrooms, had 13 per cent; and Area VI, with no elementary school, had 3 per cent of the elementary school personnel.

Relation of attendance boundaries and city area boundaries. The distribution of elementary school pupils

TABLE 6.4

PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL BY SCHOOLS AND SCHOOL SYSTEMS THAT LIVED IN EACH OF THE SIX CITY AREAS

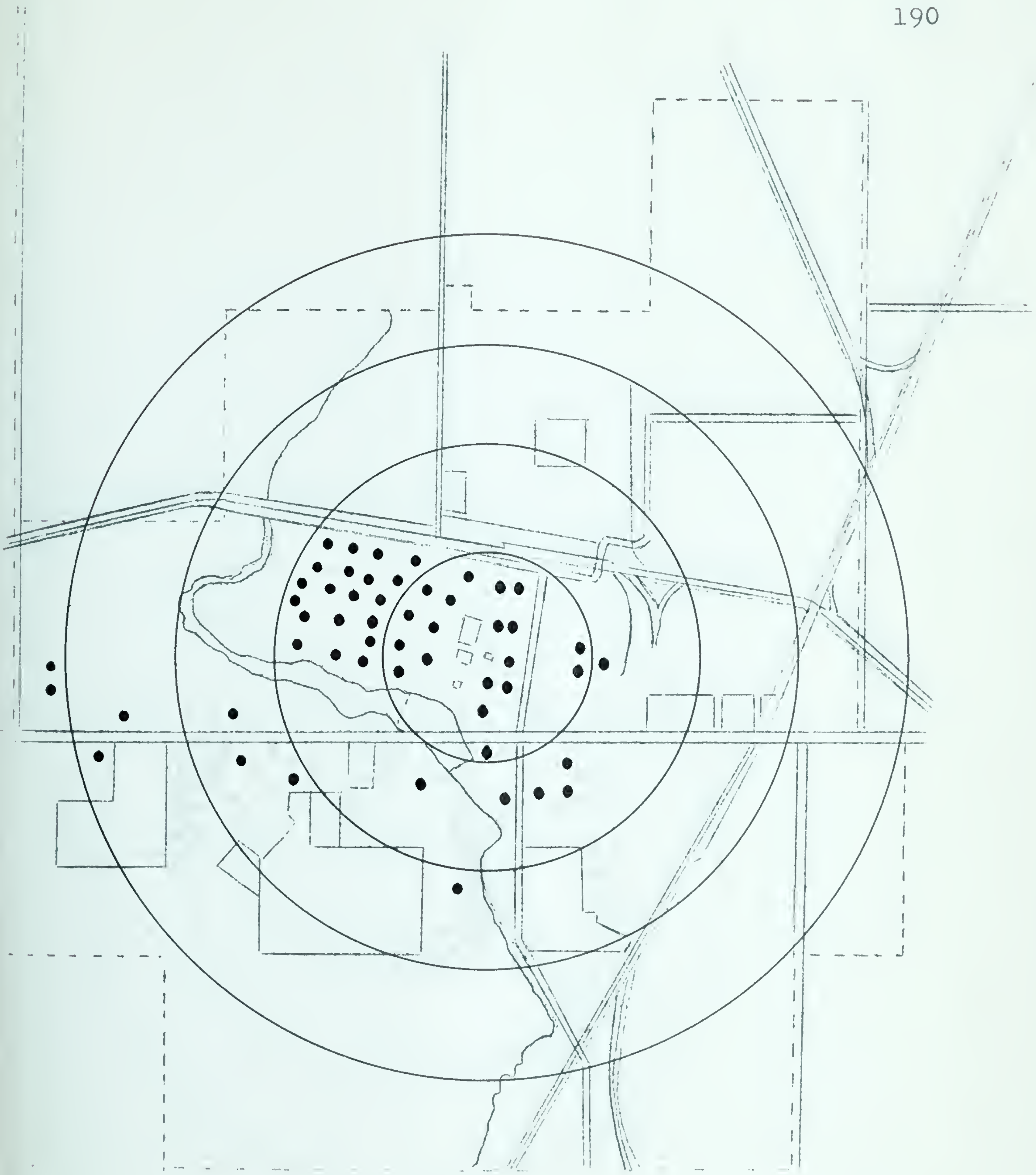
1961-1962

Area	A	B	C	D	E	F	Sub total	G[*]	Total
I	0%	0%	0%	3%	15%	89%	21%	36%	25%
II	68	0	49	0	23	8	21	21	21
III	5	0	6	35	17	0	13	15	13
IV	9	13	17	53	25	0	22	8	18
V	9	81	17	0	11	0	15	6	13
VI	7	6	9	0	5	0	4	1	3
Rural	2	0	3	9	5	3	4	13	7

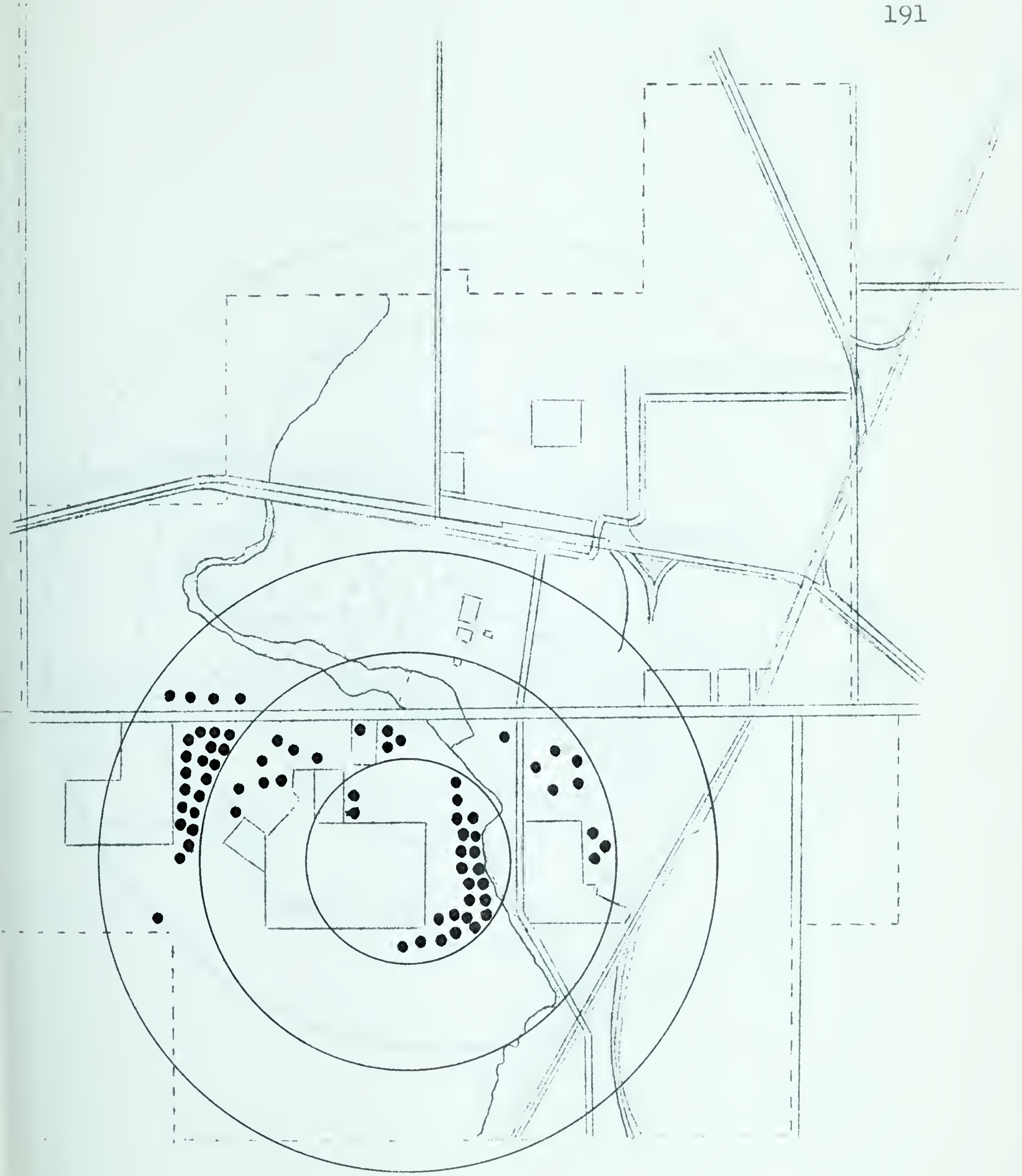
[*] The letters represent the seven elementary schools. The number of pupils in each school, in each school district, and in the city is shown below.

A - Central Cottage, N = 56
B - Fairground, N = 68
C - Hillside Cottage, N = 70
D - Junior High, N = 106
E - John W. Russell, N = 222
F - Sparling, N = 109
Sub-total, N = 631
G - Saint Patrick's, N = 234
Total - - - - N = 865

of the Camrose Public School District and the Camrose Separate School District is shown in Table 6.4 and on Maps 4 to 10 inclusively. The Central Cottage School had 68 per cent, the Fairground School had 81 per cent, the Hillside Cottage School had 49 per cent, the Junior High School elementary school had 35 per cent, the John W. Russell School had 23 per cent, and the Sparling School had 89 per cent of the elementary school personnel living within the boundaries of the city area in which the school was located. The analysis indicates that school attendance boundaries were not determined by traffic arteries and by natural boundaries. However, the Fairground School and the Sparling School, with 81 per cent and 89 per cent respectively of pupil personnel resident in the same city area as the school, show that the city area boundaries may have influenced the attendance boundaries. More pupils attending the three schools in Area II had to cross city area boundaries than did the pupils of other public elementary schools. Pupils of the John W. Russell School came from all city areas while the pupils of the two cottage schools came from all city areas except Area I. There were 13 per cent of the pupils at the Fairground School who crossed Stoney Creek and 6 per cent who crossed Highway 13 to reach the school. At the Junior High School 3 per cent crossed the Canadian Pacific Railway, and 53 per cent crossed Highway 13.



Map 4. Distribution of elementary school pupil personnel at the Central Cottage School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 5. Distribution of elementary school pupil personnel at the Fairground School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.

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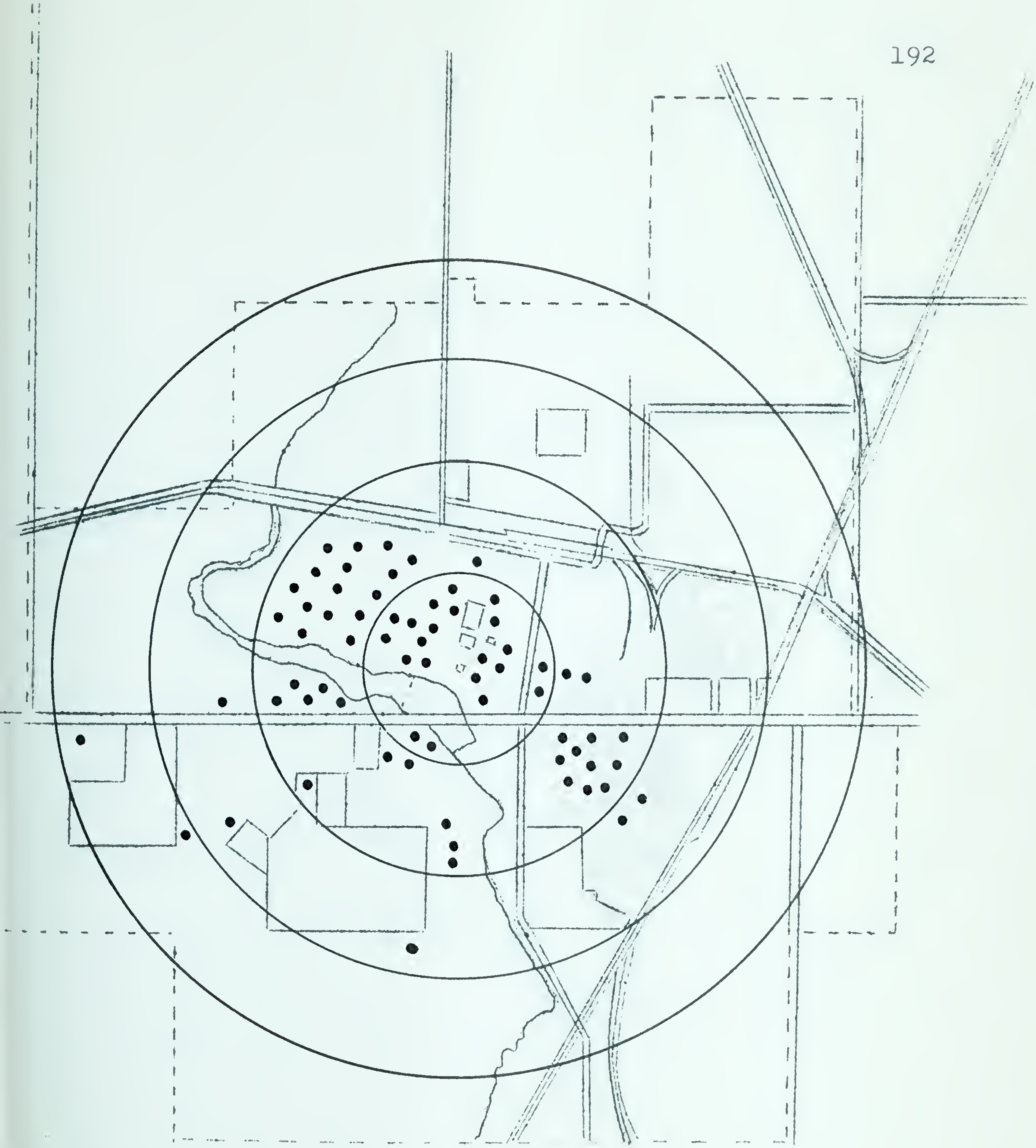
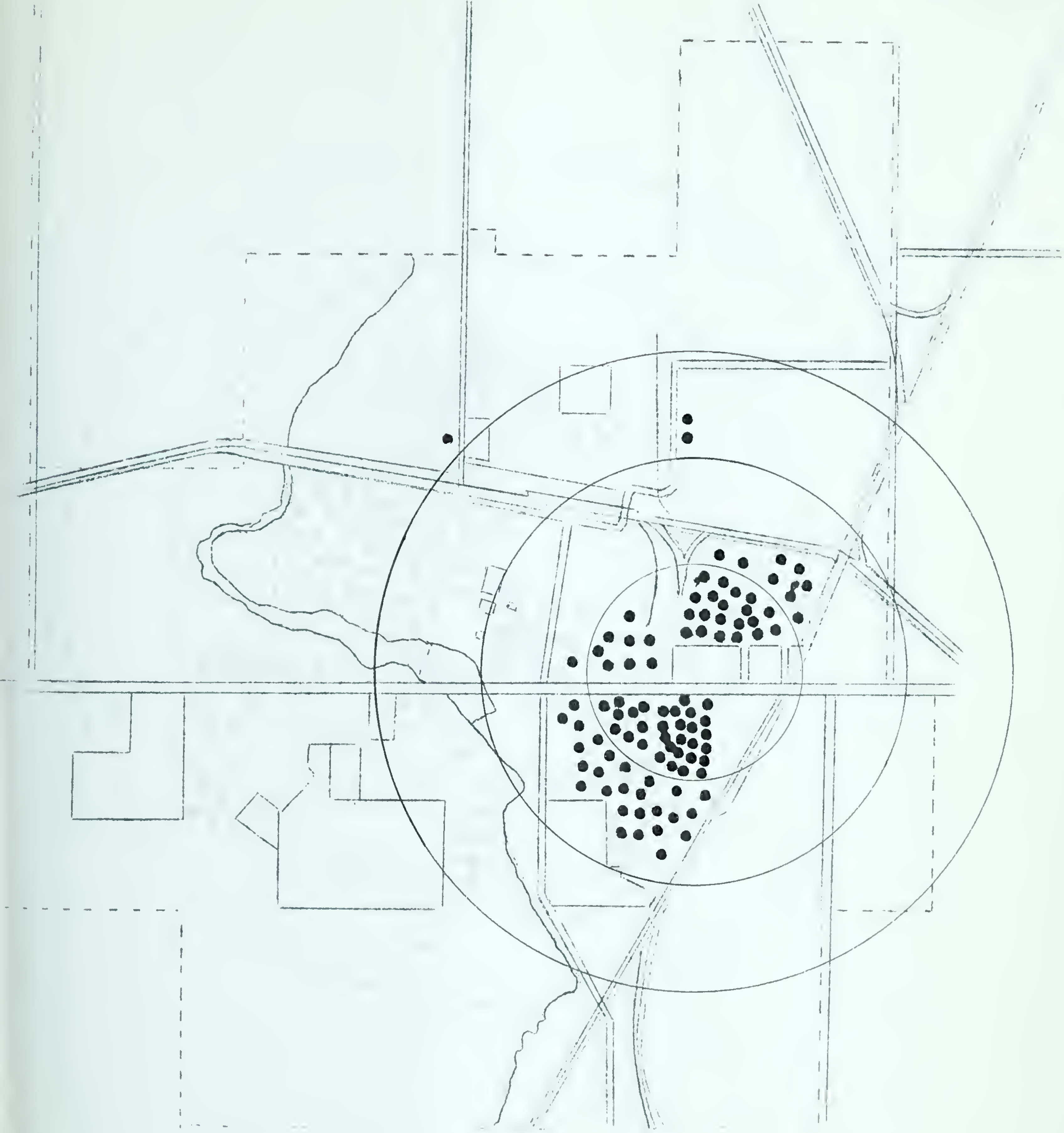
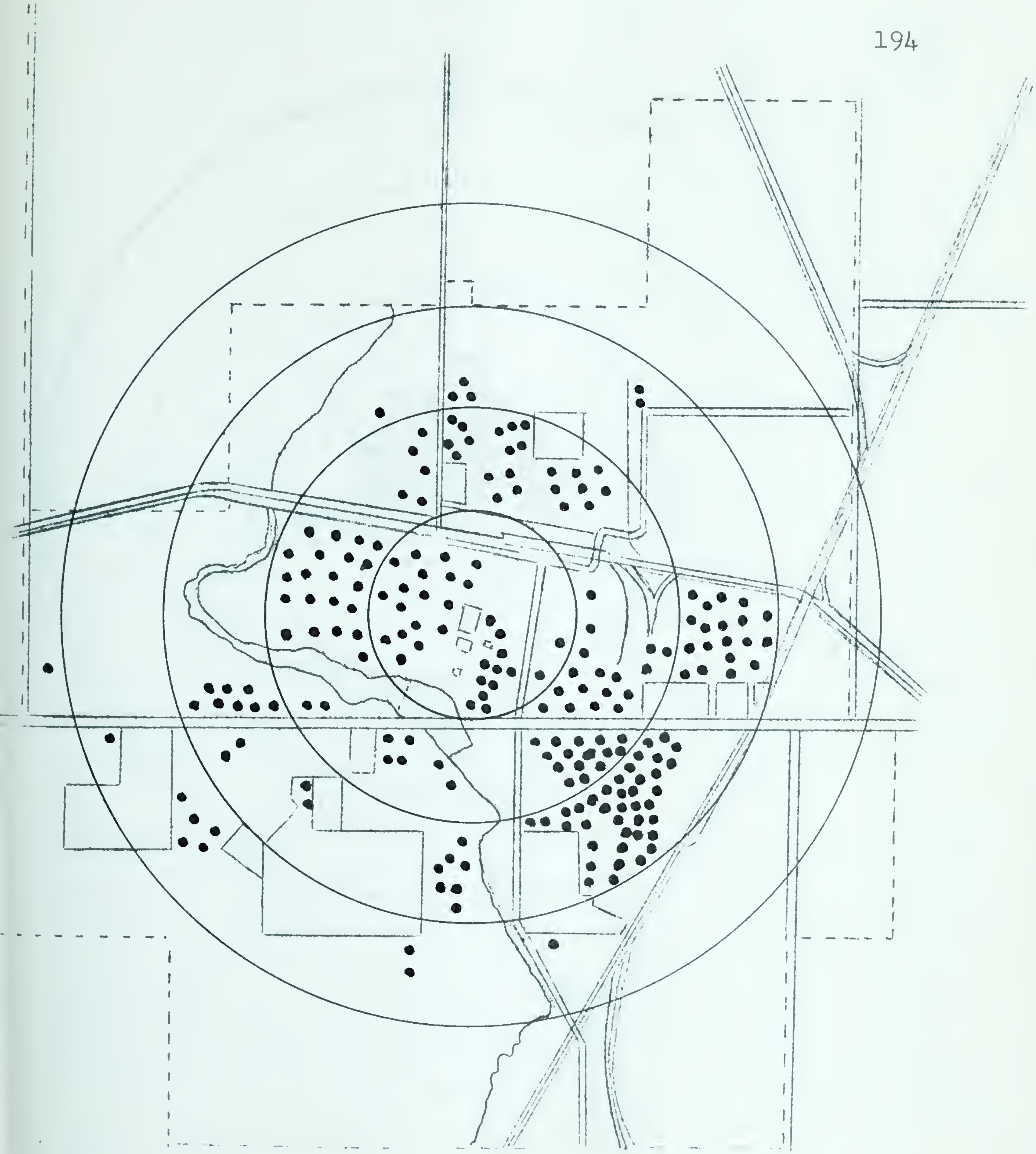


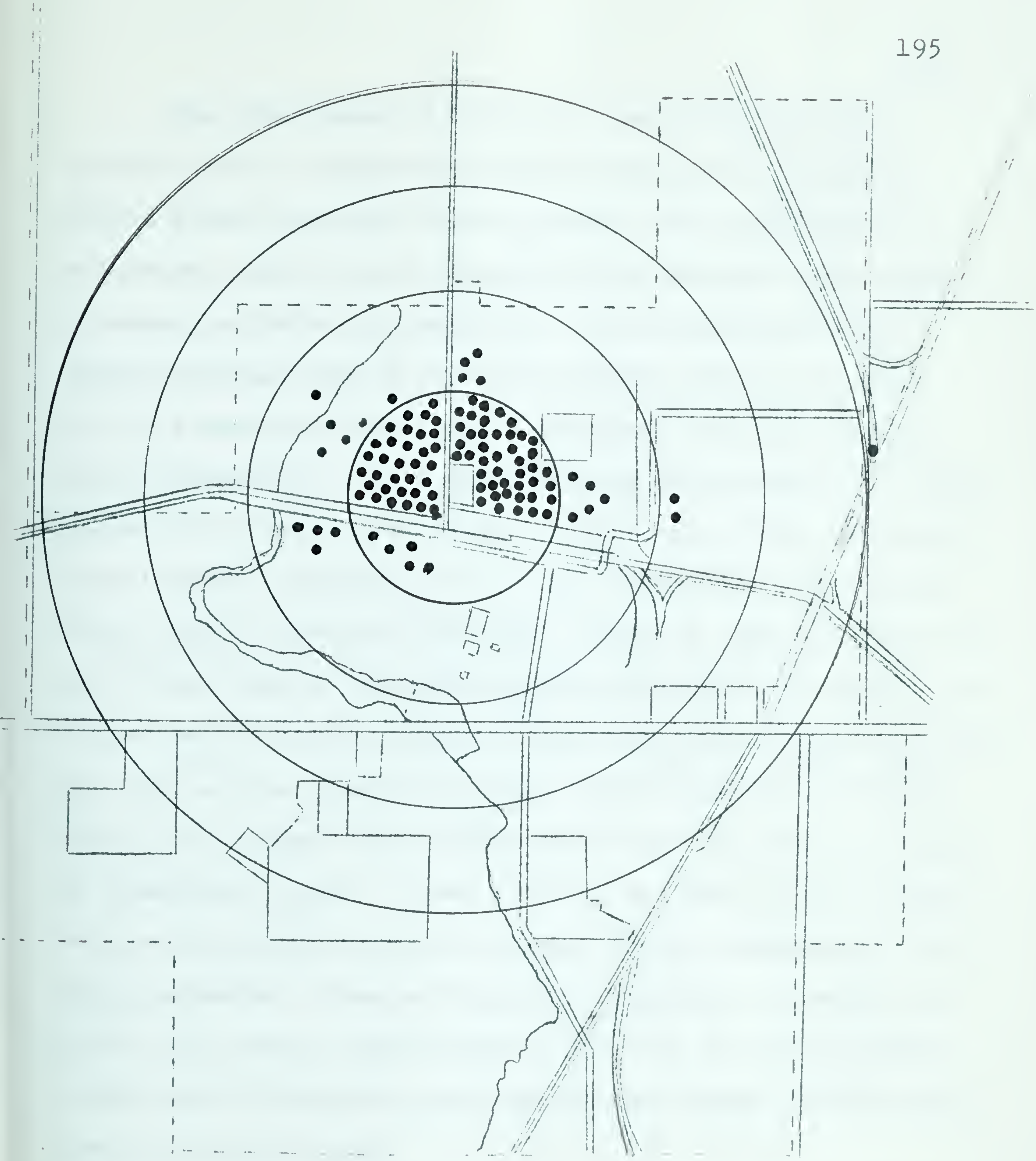
Map 6. Distribution of elementary school pupil personnel at the Hillside Cottage School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 7. Distribution of elementary school pupil personnel at the Junior High School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 8. Distribution of elementary school pupil personnel at the John W. Russell School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 9. Distribution of elementary school pupil personnel at the Sparling School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.

The sub-totals in Table 6.4, page 188, show the distribution of elementary school pupils of the Camrose Public School District by city areas. The percentage of elementary school pupil personnel that attended each school is shown in Table 6.5, page 197. In the Camrose Public School District Area I, with one school, had 21 per cent of the elementary school pupil personnel, and 17 per cent of the elementary school pupil population attended the school in the city area. Area II had 21 per cent of the elementary school pupil population, but 55 per cent of the elementary school pupil population attended school in Area II. Area III had 13 per cent of the elementary school pupil personnel, and 17 per cent attended school in the city area. Area IV had 22 per cent of the elementary school pupils, and all of these pupils went beyond the boundaries of the city area to attend an elementary school. Area V had 15 per cent of the elementary school pupils, and 11 per cent of the elementary school pupil personnel attended classes in temporary accommodation in the city area. Area VI had 4 per cent of the elementary school pupil population, and all of the pupils left the city area to attend school.

With one school only in the Camrose Separate School District, the traffic arteries and natural boundaries did not act as boundaries for attendance areas. However, 36 per cent of the elementary school pupil personnel lived in Area I where the school was located.

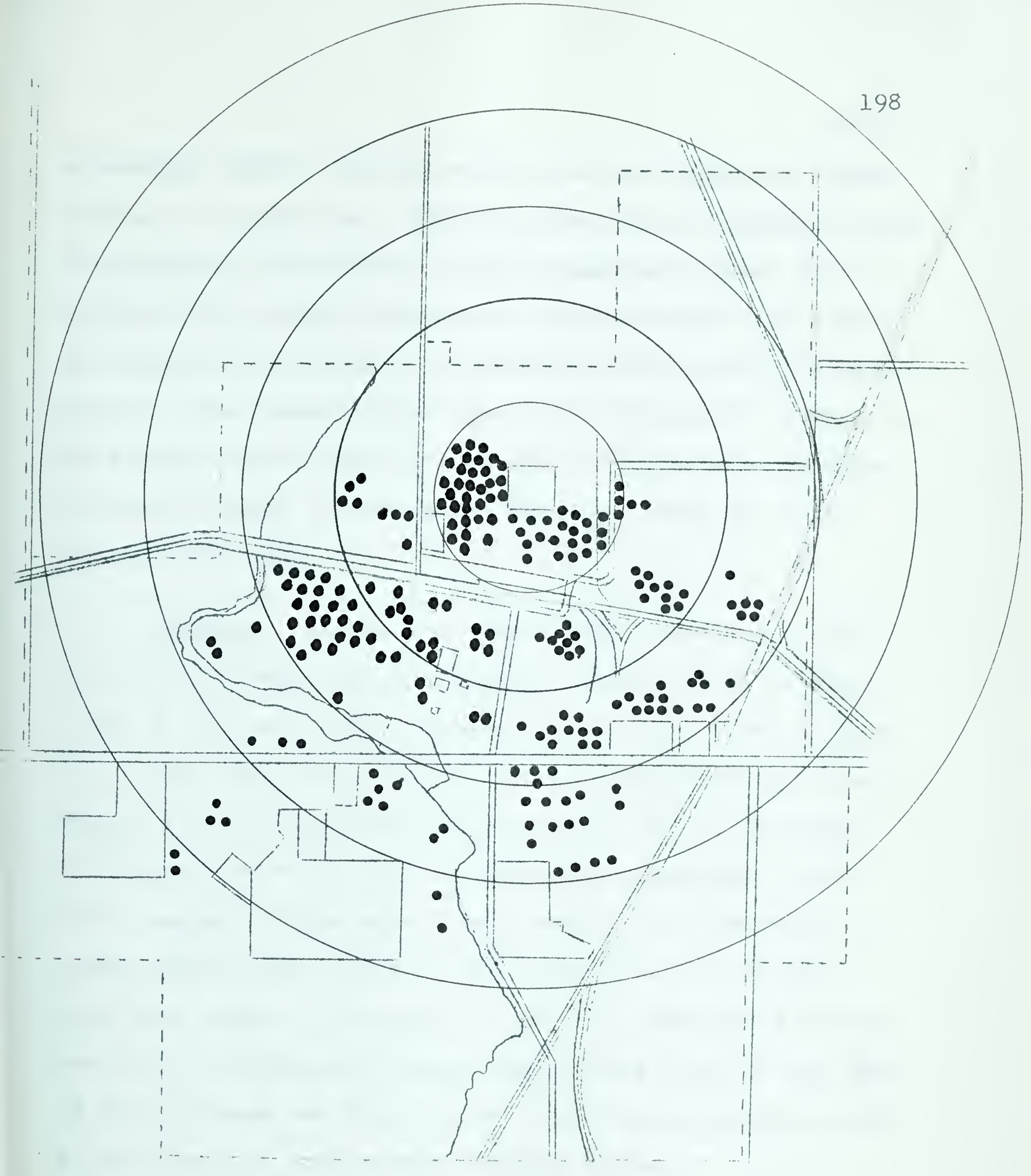
Briefly, it was noted that some elementary school pupils from all elementary schools in the city crossed traffic arteries or natural boundaries to reach the school which they attended, that attendance boundaries and city area boundaries did not coincide. In the Public School system the Sparling School and the Fairground School had the highest percentages of their pupils living within the boundaries of the city area in which the school was located.

TABLE 6.5

PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL OF EACH SCHOOL DISTRICT ATTENDING EACH SCHOOL 1961-1962

School	Area	Percentage
Public School System (N = 631)		
Central Cottage	II	9%
Fairground	V	11
Hillside Cottage	II	11
Junior High	III	17
John W. Russell	II	35
Sparling	I	17
Separate School System (N = 234)		
Saint Patrick's	I	100

Pupils from all city areas attended schools in Area II. A much higher percentage of elementary school pupils attended school in Area II than lived in Area II. Elementary school pupils attending the Junior High School lived largely in Areas III and IV. Area IV, with the highest percentage of



Map 10. Distribution of elementary school pupil personnel at the Saint Patrick's School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.

elementary Public Schools pupils, had no elementary school within its boundaries. Pupils at the John W. Russell School came from all city areas. While elementary school pupils from all city areas attended the Separate School in Area I, the highest percentage of elementary school pupils lived in Area I. The lowest percentages were in Areas IV, V, and VI. This means that a small percentage of pupils were required to cross Highway 13 and Stoney Creek to reach the Saint Patrick's School.

Summary. Elementary school pupil personnel lived in all city areas with the highest concentration in Areas I and II (46 per cent). Another 13 per cent lived in Area III. This means that 59 per cent of the elementary school pupils lived to the north of Highway 13 and in the three city areas where all but one temporary elementary school were located. There were 7 per cent of the elementary school pupils that lived in the rural area, and 34 per cent that lived in Areas IV, V, and VI. There were 16 per cent of the elementary school pupils that lived to the west of Stoney Creek and Mirror Lake, and 25 per cent that lived to the north of the Canadian Pacific Railway.

The distribution for the Camrose Public School District showed somewhat different percentages. The highest concentration of pupils was in Area IV (22 per cent)

followed by Areas I and II with 21 per cent each. There were 55 per cent of the elementary school pupils living to the north of Highway 13, 21 per cent living to the north of the Canadian Pacific Railway, 19 per cent living to the west of Stoney Creek and Mirror Lake, and 4 per cent living in the rural area. This means that 70 per cent of the elementary school pupils lived in city areas where elementary schools were located.

The Camrose Separate School District, with one elementary school, had the highest concentration of elementary school pupils (36 per cent) in Area I where the school was located. This was followed by 21 per cent and 15 per cent in Areas II and III respectively. Thus, 72 per cent of the elementary school pupils lived to the north of Highway 13. Another 13 per cent lived in the rural area, and 7 per cent only lived to the west of Stoney Creek.

Attendance boundaries and city area boundaries, as defined in this study, did not coincide. In the Public School District with Grades I, II, and III taught in Areas I, II, III, and V, with Grade IV taught in Areas I and II, with Grade V taught in Areas II and V, and with Grade VI taught in Area II only, it was impossible for attendance boundaries to be determined by city area boundaries. Since the Separate School District had one elementary school only, the attendance area was the entire city.

While attendance boundaries were not determined by city area boundaries, the data suggest that attendance boundaries at some schools were influenced by city area boundaries. At the Central Cottage School the Canadian Pacific Railway acted as an attendance boundary; at the Fairground School Highway 13 was an attendance boundary for all but four pupils; at the Junior High School the Canadian Pacific Railway, Fiftieth Street, and Stoney Creek, but not Highway 13 were attendance boundaries for the elementary grades therein; and at the Sparling School the Canadian Pacific Railway was an attendance boundary for all but nine pupils. City area and attendance boundaries seemed to have some, but not complete, relationship for Grades I, II, and III. For Grades IV, V, and VI the city area and attendance boundaries did not coincide.

Junior High Schools

The distribution of the junior high school pupils from the three schools of the Public School District and from the one school of the Separate School District is shown in Tables 6.6 and 6.7, and on Maps 11 to 14 inclusively.

Areas where pupils lived. The junior high school pupils of the Public School District numbered two hundred ninety and came from all city areas as is indicated in

Table 6.6. There were 18 per cent in Area I, 21 per cent in Area II, 15 per cent in Area III, 22 per cent in Area IV, 14 per cent in Area V, 5 per cent in Area VI, and 5 per cent in the rural area.

The Separate School District had one hundred one junior high school pupils. It is shown in Table 6.6 that of this number 37 per cent lived in Area I where the school was located, 24 per cent lived in Area II, 15 per cent lived in Area III, 5 per cent lived in Area IV, 5 per cent in Area V, 3 per cent lived in Area VI, and 12 per cent lived in the surrounding rural district.

The combined distribution of three hundred ninety-one junior high school pupils for the Public School District and for the Separate School District is shown in Table 6.6. Area I with two schools had 23 per cent, Area II with one school had 22 per cent, Area III with one school had 15 per cent, Area IV had 17 per cent, Area V had 12 per cent, Area VI had 5 per cent, and the rural district had 7 per cent of the junior high school pupils who were in attendance in junior high schools in the city living within their boundaries. Thus, 34 per cent of the pupils lived in city areas where there were no junior high schools.

Relation of attendance boundaries and city area boundaries. The junior high schools of the Public School

TABLE 6.6

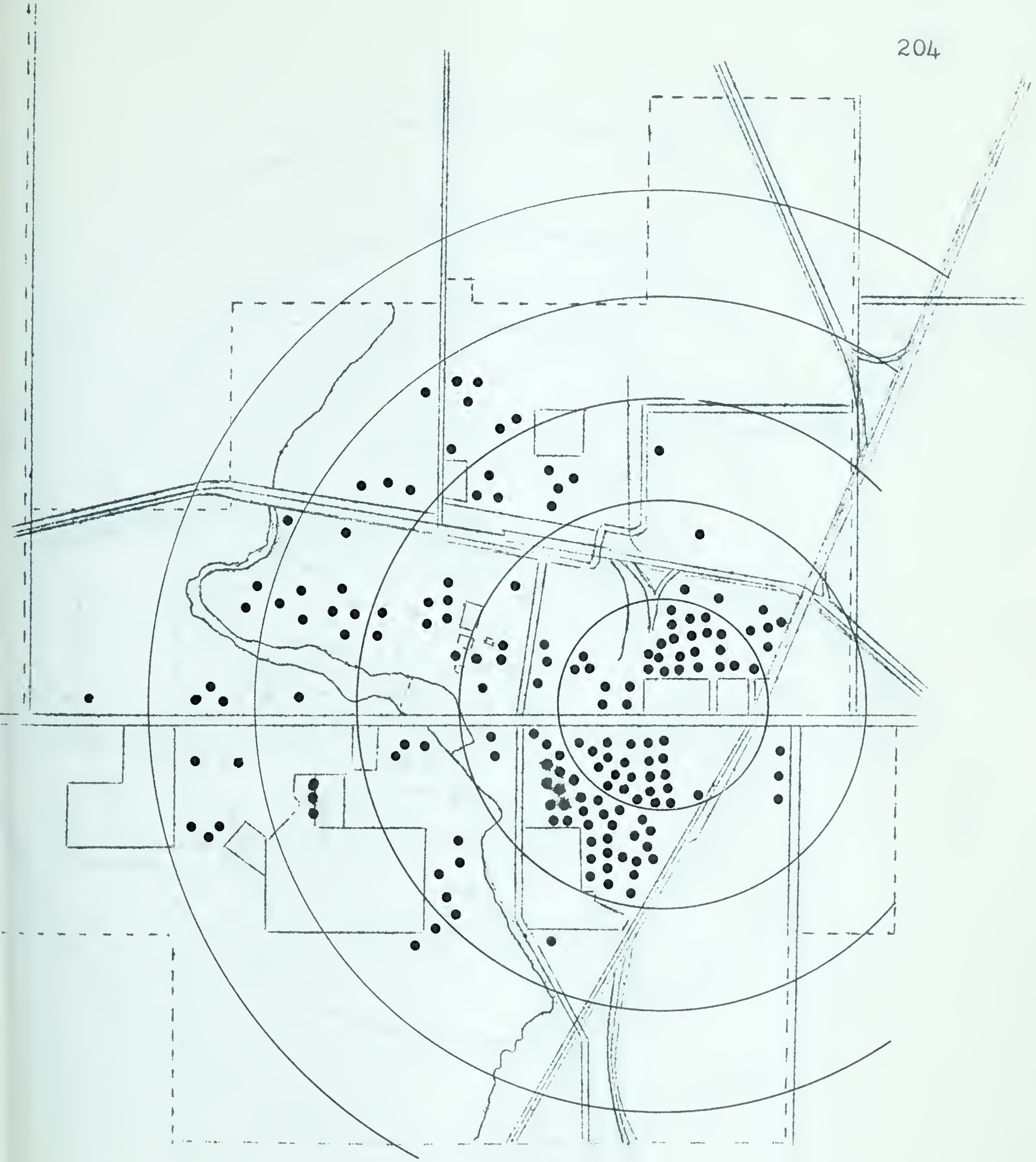
PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL BY SCHOOLS AND SCHOOL SYSTEMS THAT LIVED IN EACH OF THE SIX CITY AREAS

1961-1962

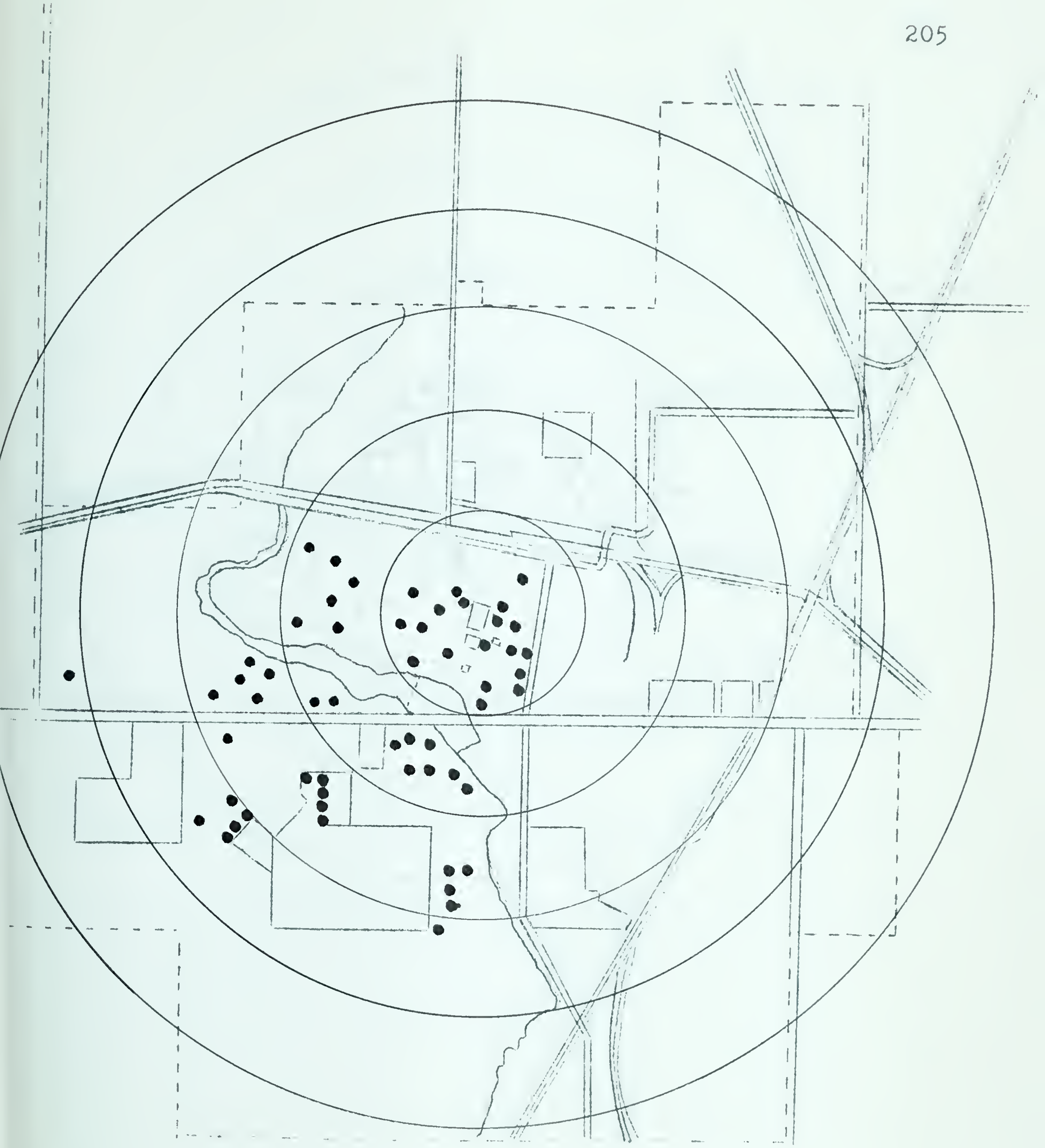
Area	D	E	F	Sub total	G[*]	Total
I	11%	0%	62%	18%	37%	23%
II	11	43	33	21	24	22
III	24	0	0	15	15	15
IV	36	0	0	22	5	17
V	10	40	0	14	5	12
VI	3	14	4	5	3	5
Rural	7	3	2	5	12	7

[*] The letters represent the four junior high schools. The number of pupils in each school, in each school district, and in the city is shown below.

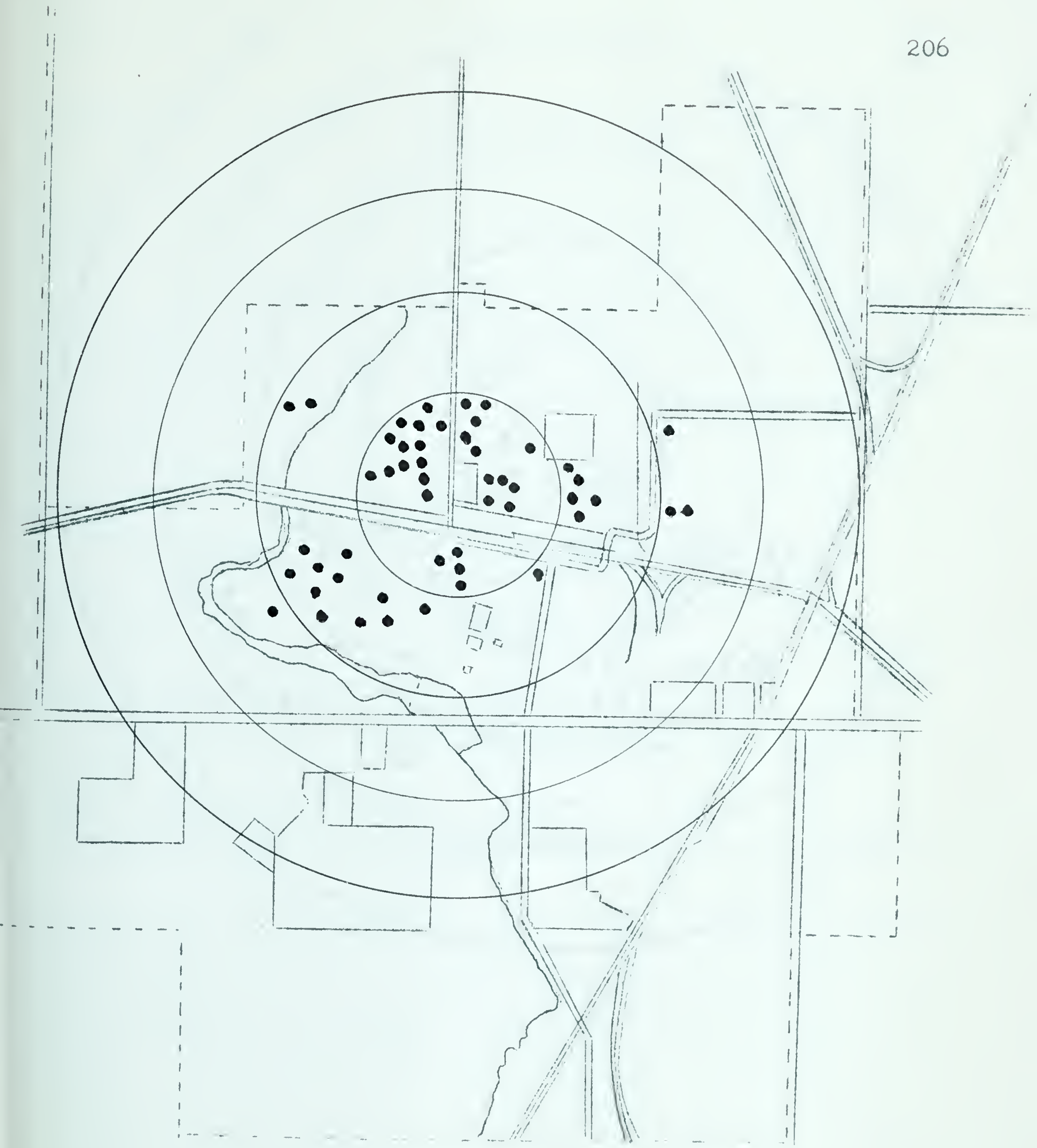
D - Junior High, N = 180
E - John W. Russell, N = 58
F - Sparling, N = 52
Sub-total, N = 290
Total, - - - N = 391
G - Saint Patrick's, N = 101



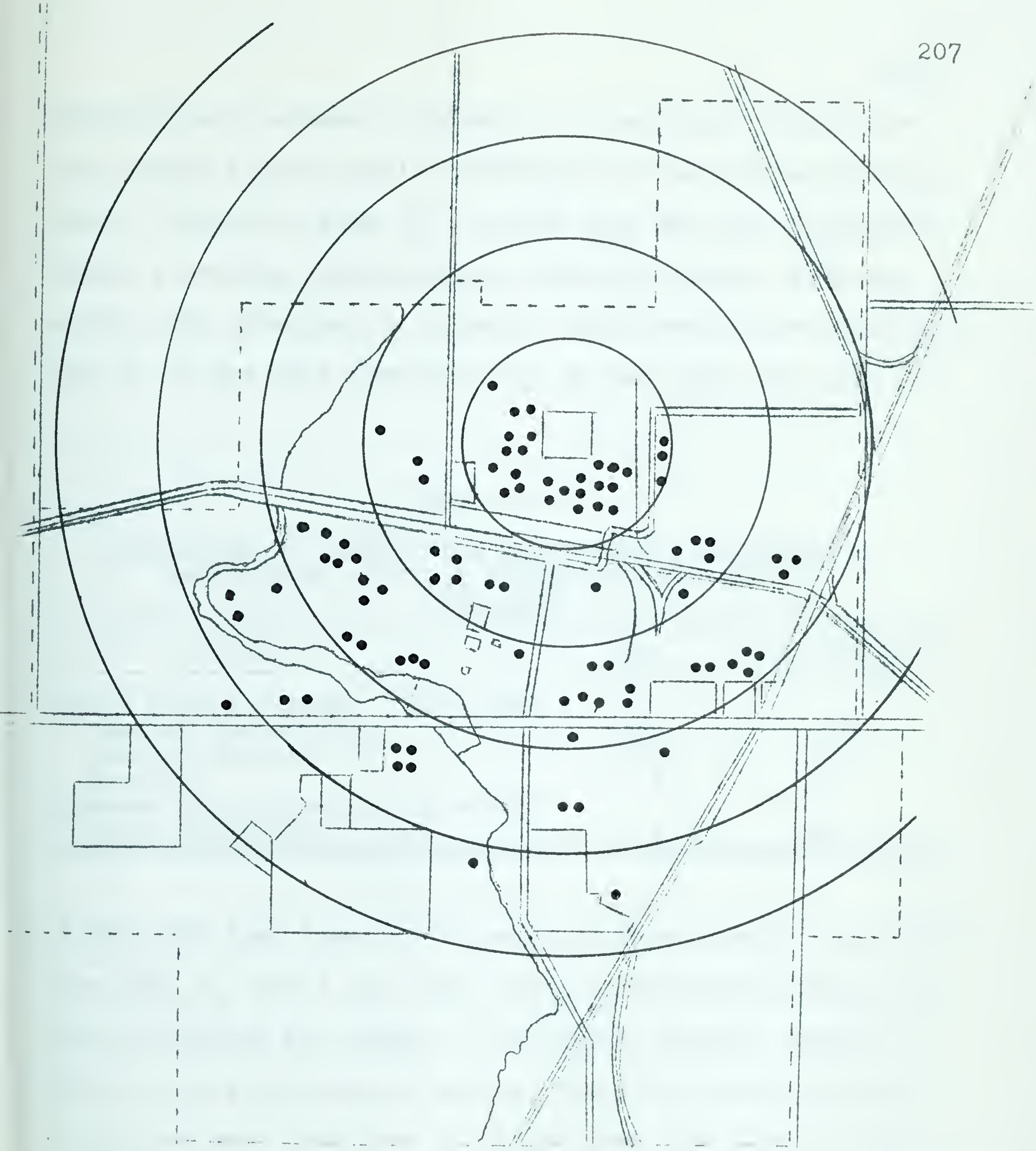
Map 11. Distribution of junior high school pupil personnel at the Junior High School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 12. Distribution of junior high school pupil personnel at the John W. Russell School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 13. Distribution of junior high school pupil personnel at the Sparling School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 14. Distribution of junior high school pupil personnel at the Saint Patrick's School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.

District were located in Areas I, II, and III. There were one hundred eighty pupils attending the Camrose Junior High School located in Area III. Since this was the only Public School providing instruction in Grade IX, pupils from the entire city attended the school. There were 11 per cent from Area I, 11 per cent from Area II, 24 per cent from Area III, 36 per cent from Area IV, 10 per cent from Area V, 3 per cent from Area VI, and 7 per cent from the surrounding rural district attending the school. The John W. Russell School in Area II, with fifty-eight pupils, had 43 per cent from Area II, 40 per cent from Area V, 14 per cent from Area VI, and 3 per cent from the rural district attending the school. The Sparling School in Area I and with fifty-two pupils had 62 per cent from Area I, 33 per cent from Area II, 4 per cent

TABLE 6.7

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL OF EACH SCHOOL DISTRICT ATTENDING EACH SCHOOL 1961-1962

School	Area	Percentage
Public School System (N = 290)		
Camrose Junior High	III	62%
John W. Russell	II	20
Sparling	I	18
Separate School System (N = 101)		
Saint Patrick's	I	100

from Area VI, and 2 per cent from the rural district attending the school.

By comparing the sub-total percentages in Table 6.6 with the percentages in Table 6.7, the effect of traffic arteries and natural boundaries upon attendance areas was noted. There were 18 per cent of the junior high school population of the Public School District living in Area I, and 18 per cent attended classes in that city area. Area II had 21 per cent of the junior high school population within its boundaries, and 20 per cent attended classes there. Area III had 15 per cent of the junior high school pupil population as residents but had 62 per cent of the junior high school pupil personnel attending school in its one junior high school. Areas IV, V, and VI provided 41 per cent of the junior high school pupils but had no school.

The data from the junior high schools showed several things. There were some junior high school pupils in attendance at all the junior high schools who crossed city area boundaries to reach the school which they attended. Since the junior high school in Area III was the only Public School teaching Grade IX, pupils from all city areas attended this school. Since seventeen pupils from Area II, as shown on Map 13, attended junior high school in Area I, and since the same grades were taught in Area II, the data

suggest that the attendance boundaries for Area I were determined by the distribution of the pupil population and not by city area boundaries alone. Area IV, with no junior high school, had the highest percentage of junior high school pupils of the Public School District living within its boundaries.

As with the elementary school grades, the junior high school of the Separate School District showed the highest concentration of pupil personnel in Area I where the school was located. Areas IV, V, and VI, had the lowest concentration of junior high school pupils in the Separate School District. Thus, a small percentage of the pupils were required to cross Highway 13 and Stoney Creek to reach the school. The city area boundaries did not determine the attendance boundaries of the school.

The school attendance area boundaries obviously were not determined by boundaries of the six city areas as defined in this study--boundaries marked by traffic arteries and by natural boundaries. However, the boundaries of the six city areas appeared to have some influence on the attendance area boundaries of the schools in the Public School District.

Summary. Junior High School pupils lived in all city areas with the highest concentration in Area I with

23 per cent, followed by Area II with 22 per cent, Area III with 15 per cent, Area IV with 17 per cent, Area V with 12 per cent, Area VI with 5 per cent, and the rural area with 7 per cent. This means that 65 per cent of the junior high school pupils lived to the north of Highway 13, and that 17 per cent lived to the west of Stoney Creek.

The distribution of junior high school pupils of the Public School District differed from that of the combined distribution of the two school districts. There were 18 per cent of the pupils living to the north of the Canadian Pacific Railway, 54 per cent living to the north of Highway 13, 22 per cent living in Area IV, and 19 per cent living to the west of Stoney Creek.

The highest concentration of junior high school pupils in the Separate School District was in Area I (37 per cent). There were 76 per cent to the north of Highway 13, and 8 per cent to the west of Stoney Creek.

Attendance and city area boundaries did not coincide. The attendance area for Grade IX pupils in the Public School District and for Grades VII, VIII, and IX in the Separate School District was the entire city.

For Grades VII and VIII in the Public School District the city area boundaries seemed to have some

influence on attendance area boundaries. At the John W. Russell School all pupils lived in Areas II, V, and VI, and at the Sparling School all pupils lived in Areas I and II.

Senior High Schools and a Junior College

The senior high school pupils attended classes on three sites in the city. The senior high school for the Public School District was located in Area III, and pupils attended the school from all city areas. The senior high school for the Separate School District was located in Area I, and again the pupils attended from all city areas. The Camrose Lutheran College, a private school in Area IV, had classes for Grades X, XI, XII, and for junior college.

Areas where pupils lived. Out of a total attendance of two hundred sixty-three pupils in the senior high school of the Public School District, the distribution of two hundred sixty-two pupils was determined. It is shown in Table 6.8 that, of the senior high school population, there were 14 per cent from Area I, 26 per cent from Area II, 11 per cent from Area III, 19 per cent from Area IV, 11 per cent from Area V, 3 per cent from Area VI, and 16 per cent from the rural area. Only 11 per cent of the pupil personnel lived in Area III where the school was located.

The total attendance in the senior high school of the Separate School District was seventy, and the distribution of 100 per cent of the pupils was analyzed. Table 6.8 shows that there were 39 per cent of the pupils from Area I, 20 per cent of the pupils from Area II, 19 per cent of the pupils from Area III, 9 per cent of the pupils from Area IV, 6 per cent of the pupils from Area V, 1 per cent of the pupils from Area VI, and 7 per cent of the pupils from the rural area.

TABLE 6.8

PERCENTAGE OF SENIOR HIGH SCHOOL AND JUNIOR COLLEGE PUPIL PERSONNEL BY SCHOOL SYSTEMS THAT LIVED IN EACH OF THE SIX CITY AREAS
1961-1962

Area	Public S. D. N=262	Separate S.D. N=70	Camrose Lutheran College N=166	Total N=498
I	14%	39%	1%	13%
II	26	20	10	19
III	11	19	3	9
IV	19	9	73	35
V	11	6	2	7
VI	3	1	1	2
Rural	16	7	11	13

The highest concentration (39 per cent) was in Area I where the school was located.

The Camrose Lutheran College had one hundred ninety-three pupils, and adequate data for analysis were obtained for one hundred sixty-six pupils. Since the school was a

residential and a day school with most of the students living in the residence, 73 per cent of the students lived in Area IV where the school was located. There were 1 per cent in Area I, 10 per cent in Area II, 3 per cent in Area III, 2 per cent in Area V, 1 per cent in Area VI, and 11 per cent in the rural area.

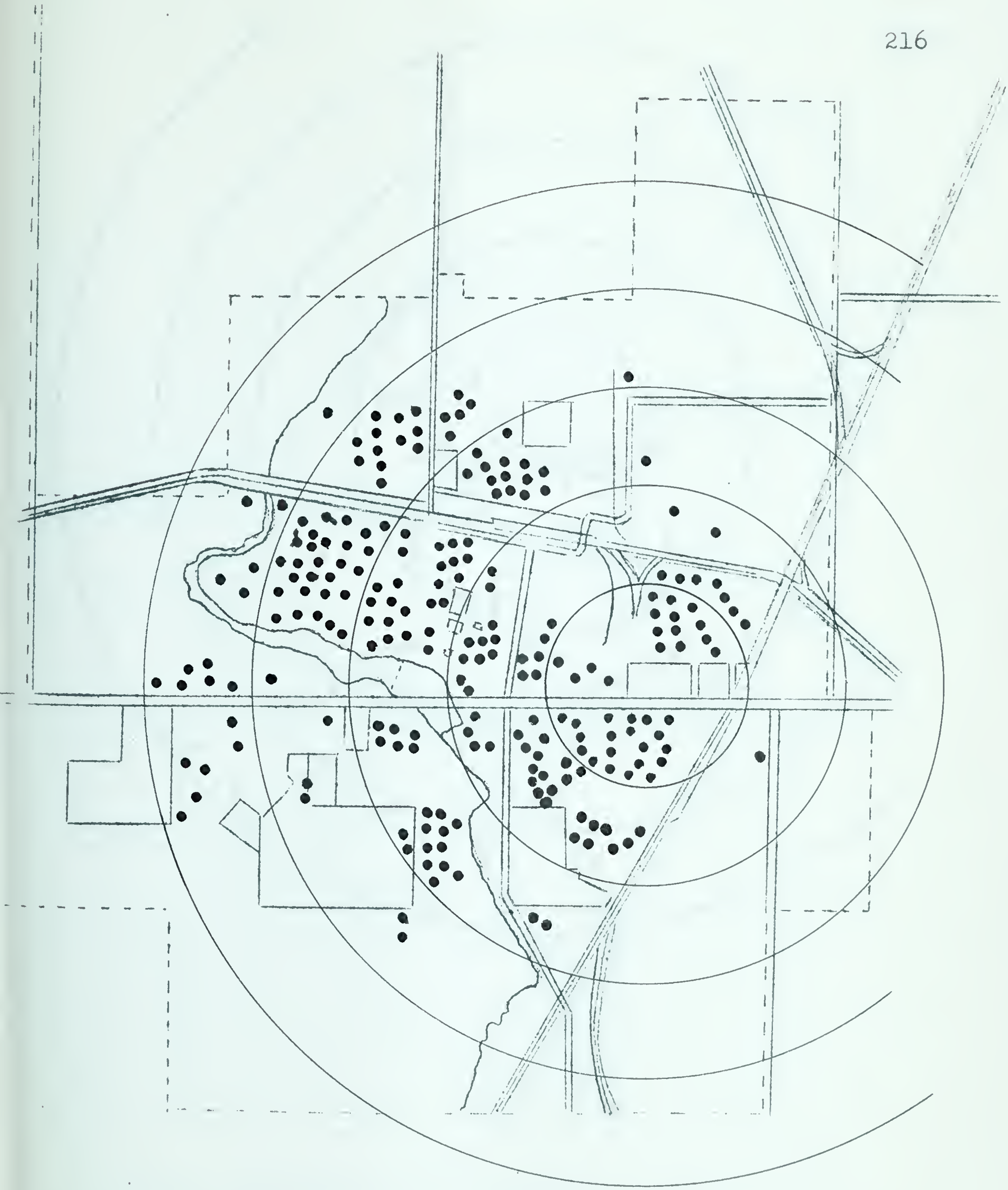
When the total distribution for all the schools was examined, as shown on Table 6.8, it was found that Area IV with the residential school showed the highest concentration of high school pupil personnel. Area I had 13 per cent and Area II had 19 per cent of the high school pupils resident within their boundaries. Area III with the senior high school of the Public School District within its boundaries, had 9 per cent only of the high school resident there.

Relation of attendance boundaries and city area boundaries. Some senior high school pupils at all schools crossed traffic arteries and natural boundaries to reach school. Map 15 and Table 6.8 show that the senior high school pupil personnel of the Public School District had one of the lowest concentrations in Area III where the school was located, had low concentration in Areas V and VI, and had higher concentration in Areas II and IV. Map 16 and Table 6.8 also show that the senior high school

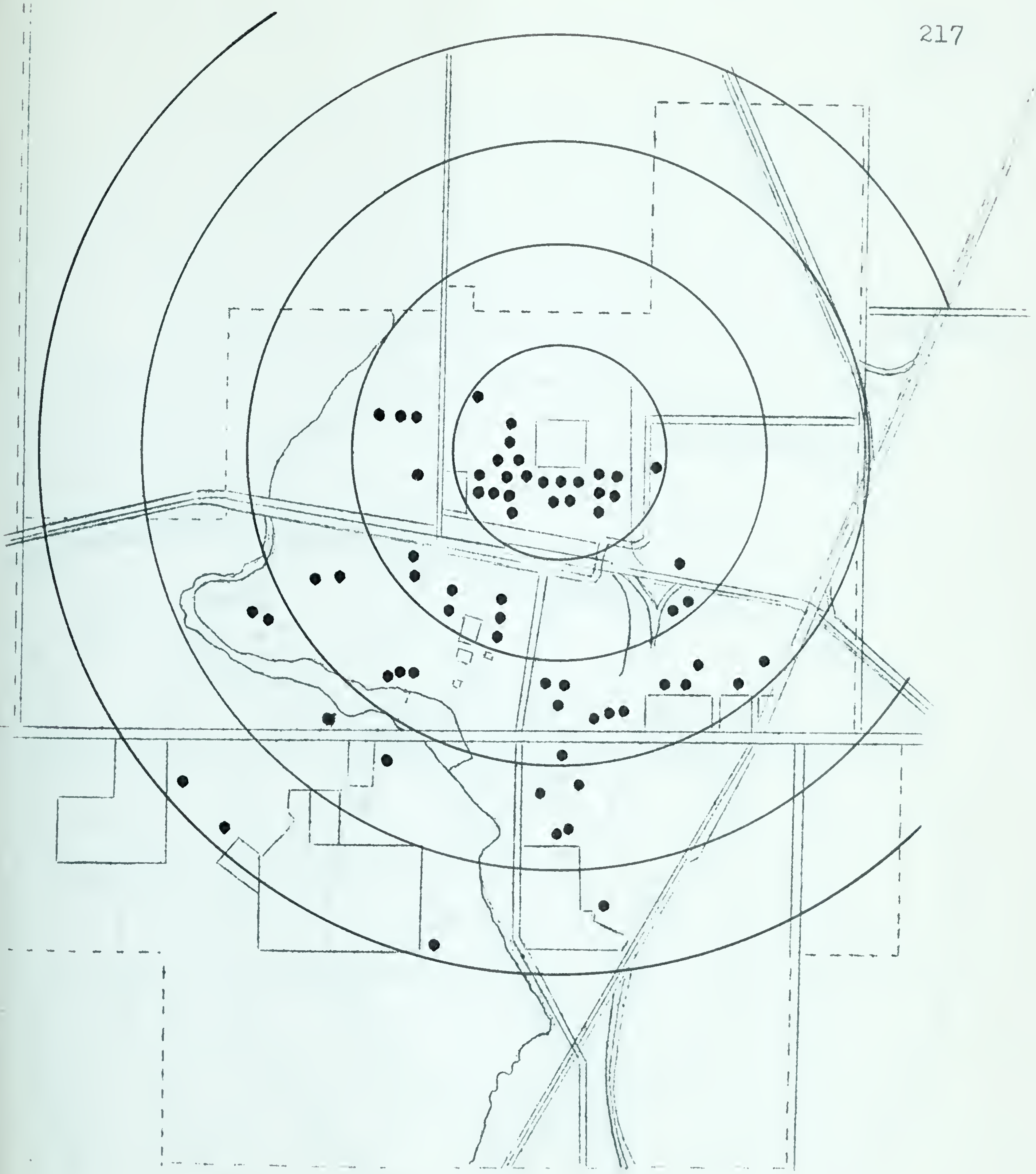
pupil personnel of the Separate School District had its highest concentration in Area I where the school was located, and its lowest concentration in the city areas most distant from the school. The pupil personnel of the Camrose Lutheran College was largely residential, and concentration, as indicated on Map 17 and Table 6.8, was in Area IV where the school was located. Junior college boys in residence had rooms in the Canadian Lutheran Bible Institute in Area II. This shows in the percentages indicated in Table 6.8.

Since the whole city was the attendance area for the schools, the attendance areas were not defined by city area boundaries. However, two of the schools showed the highest concentration of pupils in the city area where the school was located.

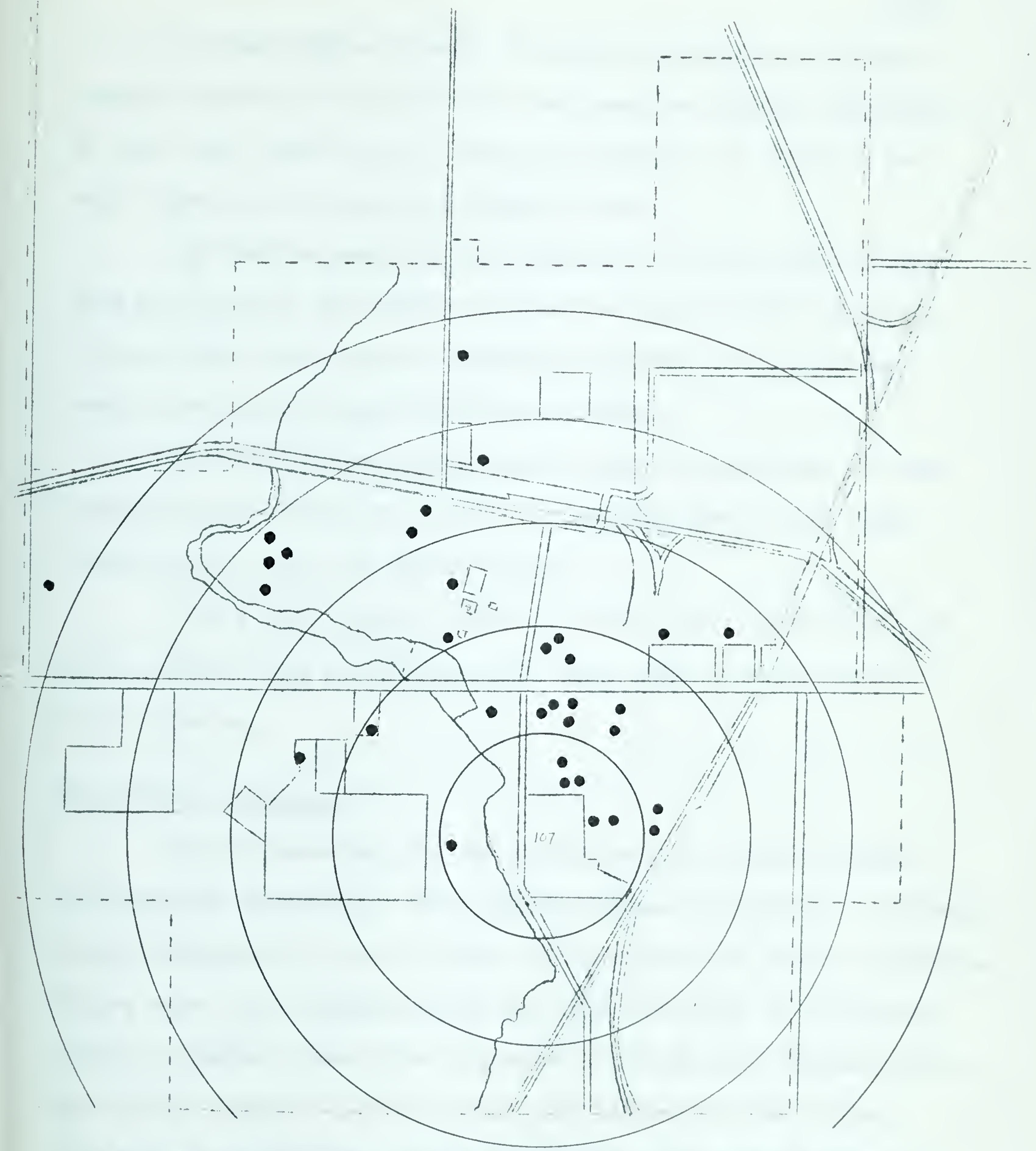
Summary. There were three schools in the city that offered instruction in high school grades, and one of these schools had junior college classes. The Saint Patrick's School with 39 per cent of its pupils living in Area I, and the Camrose Lutheran College with 73 per cent of its pupils living in Area IV had their highest concentration of pupils in the city area where the school was located. However, at the Camrose High School only 11 per cent of the pupils lived in Area III, the site of the school.



Map 15. Distribution of senior high school pupil personnel at the Camrose High School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 16. Distribution of senior high school pupil personnel at the Saint Patrick's School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil.



Map 17. Distribution of high school and junior college pupil personnel at the Camrose Lutheran College. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one pupil. There were 107 pupils in residence at the Camrose Lutheran College and eight pupils in residence at the Canadian Lutheran Bible Institute.

In the Public School District 14 per cent of the pupils lived to the north of the Canadian Pacific Railway, 51 per cent lived to the north of Highway 13, and 14 per cent lived to the west of Stoney Creek.

In the Separate School District 39 per cent of the pupils lived to the north of the Canadian Pacific Railway, 78 per cent lived to the north of Highway 13, and 7 per cent lived to the west of Stoney Creek.

At the Camrose Lutheran College 14 per cent of the pupils lived to the north of Highway 13, and 3 per cent lived to the west of Stoney Creek.

Since the entire city was in the attendance area of each school, the attendance and city area boundaries did not coincide.

Two Private Schools

Pupil personnel at the Bible schools were largely residential students. The Alberta Bible Institute, a private school located in Area V, had an enrolment of thirty students. There were two students only who did not live in the residence. One of these two students lived on the campus while the other student lived within two blocks of the school. The Canadian Lutheran Bible Institute, located in Area II, had thirty-one students enrolled. There was one student only who was not a resident on the school campus. The distribution of pupils at the Camrose Lutheran College, the

third private school in the city, was covered in the discussion of the distribution of senior high school personnel.

4. SUMMARY

The data were analyzed to answer five questions. The five questions were answered, where applicable, for four categories of pupil personnel--elementary school pupils, junior high school pupils, senior high school pupils, and private school pupils. Each of the questions is repeated, and the answers are summarized.

Question 1. How far did the pupil personnel live from the school attended?

1. In the Public School District 38 per cent of the elementary school pupils lived within one-quarter mile of school, 74 per cent lived within one-half mile of school, 93 per cent lived within three-quarters mile of school, 95 per cent lived within one mile of school, and 4 per cent lived in the rural area.

2. In the Separate School District 25 per cent of the elementary school pupils lived within one-quarter mile of school, 43 per cent lived within one-half mile of school, 72 per cent lived within three-quarters mile of the school, 84 per cent lived within one mile of school, 87 per cent lived within one and one-half miles of school, and 13 per cent lived in the rural area.

3. The combined data for the two school districts showed that 34 per cent of the elementary school pupils lived less than one-quarter mile from school, that 65 per cent lived less than one-half mile from school, that 87 per cent lived less than three-quarters mile from school, and that 92 per cent lived less than one mile from school. There were 7 per cent of the elementary school pupil personnel from the rural area.

4. In the Public School District 34 per cent of the junior high school pupils lived less than one-quarter mile from school, 65 per cent lived less than one-half mile from school, 80 per cent lived less than three-quarters mile from school, 90 per cent lived less than one mile from school, 94 per cent lived less than one and one-quarter miles from school, and 5 per cent lived in the rural area.

5. In the Separate School District there were 27 per cent of the junior high school pupils living less than one-quarter mile from school, 42 per cent living less than one-half mile from school, 74 per cent living less than three-quarters mile from school, 86 per cent living less than one mile from school, 89 per cent living less than one and one-quarter miles from school, and 12 per cent living in the rural area.

6. The combined data for the two school districts

showed that 59 per cent of the junior high school pupils lived less than one-half mile from school, that 78 per cent lived less than three-quarters mile from school, that 89 per cent lived less than one mile from school, that 93 per cent lived less than one and one-half miles from school, and that 7 per cent lived in the rural area.

7. In the Public School District 57 per cent of the senior high school pupils lived less than three-quarters mile from school, 77 per cent lived less than one mile from school, 84 per cent lived less than one and one-quarter miles from school, and 16 per cent lived in the rural area.

8. In the Separate School District 75 per cent of the senior high school pupils lived less than three-quarters mile from school, 86 per cent lived less than one mile from school, 92 per cent lived less than one and one-quarter miles from school, and 7 per cent lived in the rural area.

9. At the Camrose Lutheran College 84 per cent of the pupils lived on the campus or within three-quarters mile of the school, and 88 per cent lived less than one mile from the school. There were 11 per cent of the pupils from the rural area.

10. The total percentages for the senior high schools showed 68 per cent of the pupils living on campus or within three-quarters mile of school, 81 per cent

living on campus or within one mile of school, 86 per cent living on campus or within one and one-quarter miles of school, and 13 per cent living in the rural area.

Question 2. How well did the distance travelled by pupil personnel conform to the distance limits as suggested in the literature reviewed?

1. None of the elementary schools satisfied the one-quarter or the one-half mile maximum distance for pupil personnel to travel to school. Only the temporary classrooms at the fairgrounds had 100 per cent of the pupils within three-quarters mile of the school.

2. The schools of the Public School District more nearly satisfied the maximum travelling distance for elementary school pupils than did the school of the Separate School District.

3. There were 13 per cent of the elementary school pupils who travelled more than three-quarters mile to school, the largest maximum allowed in any of the literature to which reference was made.

4. Since 88 per cent of the junior high school pupils lived less than one mile from school, and since 7 per cent lived in the rural area, the maximum distances travelled to school by junior high school pupils compared favorably with the maximum distances given in the literature to which reference was made.

5. The location of the junior high schools more nearly met the maximum travelling distance for junior high school pupils than the locations of the elementary schools met the maximum travelling distance for elementary school pupils.

6. The city high schools satisfied the requirements of a maximum of one and one-half miles from school. A higher percentage of pupils attending the high school of the Public School District travelled a greater distance to school than did the pupils attending the high school of the Separate School District or of the private school.

Question 3. To what extent were residences of pupils concentrated in relation to school locations?

1. At the elementary school level concentration in Zone 1 for six of the seven schools, dispersion in Zone 2 for six of the seven schools, and concentration in Zone 3 for two only of the seven schools seemed to indicate a tendency for concentration of pupils' residences within one-quarter mile of the school.

2. At the junior high school level there was concentration of pupils' residences in Zone 1 at all four schools, in Zone 2 at two schools, and in Zone 3 at one school. The greatest concentration was within one-quarter mile of school.

3. At the senior high schools pupils' residences were concentrated in Zone 1 at each of the three schools with marked concentration at the Camrose Lutheran College, a residential school. At the Camrose High School concentration was indicated in Zones 1 and 4. At Saint Patrick's School pupils' residences were concentrated in Zones 1 and 2.

4. At the two Bible institutes, with 95 per cent of the pupils living in the residences of the schools and 97 per cent of the pupils living on the campuses, there was concentration of pupil personnel on the campuses.

Question 4. In what city areas did the pupils live?

1. Elementary school, junior high school, and senior high school pupils in the Public School District lived in all city areas with the highest percentages in Areas I, II, and IV.

2. Elementary school, junior high school, and senior high school pupils in the Separate School District lived in all city areas with much the highest percentages in Areas I, II, and III.

3. Combined data for the Public and Separate School Districts for elementary and junior high school pupils showed the highest percentage of pupil personnel in Areas I, II, and IV.

4. The highest concentration of pupils at the Camrose Lutheran College was in Area IV.

5. Combined data for the senior high schools showed the highest percentage of pupils in Areas I, II, and IV.

Question 5. Were school attendance area boundaries determined by traffic arteries and by naturalboundaries?

1. Since the Separate School District had one school only, traffic arteries and natural boundaries did not determine the attendance area for any of its grade levels.

2. Attendance boundaries and city area boundaries, as defined in this study, did not coincide. In the Public School District with Grades I, II, and III taught in Areas I, II, III, and V, with Grade IV taught in Areas I and II, with Grade V taught in Areas II and V, and with Grade VI taught in Area II only, attendance boundaries for elementary schools were not determined by city area boundaries.

3. While attendance boundaries were not determined by city area boundaries, the data suggested that attendance boundaries at some schools were influenced by city area boundaries. The Canadian Pacific Railway acted as an attendance boundary at the Central Cottage School; Highway 13 was an attendance boundary for all but four pupils at the Fairground School; the Canadian Pacific Railway, Fiftieth Street, and Stoney Creek, but not Highway 13 were attend-

ance boundaries at the Junior High School elementary classes; and the Canadian Pacific Railway was an attendance boundary for all but nine pupils at the Sparling School. In these schools for Grades I, II, and III, city area and attendance boundaries showed some evidence of being related. For Grades IV, V, and VI the city area and attendance boundaries did not coincide.

4. For Grades VII and VIII in the Public School District the city area boundaries seemed to have some influence upon the attendance boundaries. At the John W. Russell School all pupils lived in Areas II, V, and VI, and at the Sparling School all pupils lived in Areas I and II.

5. All Grade IX and senior high school pupils of the Public School District attended one school. Thus, attendance area boundaries were not determined by traffic arteries and natural boundaries.

6. City area boundaries and attendance boundaries coincided for the Alberta Bible Institute and for the Canadian Lutheran Bible Institute, two private residential schools. At the third private school, the Camrose Lutheran College, the attendance area was the entire city.

This completes the analysis of the distribution of pupil personnel in the schools in Camrose in 1961-1962. Conclusions and implications from the analysis are given in Chapter XIII.

CHAPTER VII

THE DISTRIBUTION OF ADULT PERSONNEL

1. INTRODUCTION

The school systems with schools in the City of Camrose employed teachers, administrators, office employees, janitors, bus drivers, school garage employees, and residence staff. Chapter VII deals with the distribution of these adult school personnel.

Data for the study of the distribution of adult personnel were obtained by means of a simple schedule which was distributed to all adult school personnel in May, 1962. One hundred per cent of the instruments were completed and returned. The data obtained from the schedule, a copy of which is in the Appendix, were used to answer six questions.

1. How far did the adult school personnel live from their place of employment?

2. Was the distribution of the adult school personnel the same for all types of schools and administrative centres?

3. In what city areas did the adult school personnel live?

4. Did the adult school personnel live in the same city areas as those in which they were employed?

5. To what extent were residences of adult school personnel concentrated in relation to school locations or other places of employment in the school systems?

6. How did the distribution of professional personnel compare with the distribution of non-professional personnel?

The adult employees are divided into two groups for study--professional and non-professional adult personnel. The professional personnel include all teachers and administrators, and the non-professional personnel include, for this study, all other adult employees. The latter group consists of all office employees, janitors, bus drivers, school garage employees, and residence staff. In the analysis of the data the two groups are dealt with separately.

The schools are classified by the type of the school or by the administrative centre. The Camrose Public School District had seven schools, the Camrose Separate School District had one school, and the Camrose School Division had one school. Data were secured from two of the three private schools.

The procedure used for the analysis and presentation for adult personnel distribution by distance and by city area is similar to that used for pupil personnel and is described in Chapter VI. The areas in the City of Camrose,

as defined in this study, are described in Chapter III.

Chapter VII is divided into two parts. The first part deals with the distribution of adult personnel by distance from school or place of work. Question 1, and part of Question 2 are answered in the first part. The second part deals with the distribution of adult personnel by city areas. Part of Question 2 and Questions 3 and 4 are answered in the second part. Questions 5 and 6 are answered with evidence advanced in the analysis of data in the first and the second part.

2. DISTANCE FROM SCHOOL

Professional Personnel

The percentages of professional adult personnel living at various distances from the schools in which they were employed are shown on Table 7.1 and Table 7.2. The number of professional personnel employed is included in the footnotes to the tables.

Distance personnel lived from place of employment. The Camrose Public School District employed forty-seven professional personnel within its seven schools. Table 7.1 shows the distribution of the adult personnel for each of the schools in the Public School District. It is shown on Tables 7.1 and 7.2 that, out of the forty-seven professional employees, 34 per cent lived less than one-quarter

mile, that 57 per cent lived less than one-half mile, and that 87 per cent lived less than three-quarters mile from the school in which they were employed. There were 4 per cent only that lived more than one mile from their place of work.

The Camrose School Division, with one school located on Highway 13 and Forty-fourth Street in Area III, had nine professional employees. It is shown on Table 7.2 that 33 per cent lived one-quarter to one-half mile from school, that 44 per cent lived less than three-quarters mile from school, that 66 per cent lived less than one mile from school, that 77 per cent lived less than one and one-quarter miles from school, and that 88 per cent lived less than one and one-half miles from school. There were 11 per cent who were rural residents.

The Saint Patrick's School, operated by the Camrose Separate School District, was located on Fifty-third Avenue and Forty-ninth Street in Area I. Table 7.2 shows that the school had sixteen professional employees, and that 44 per cent lived less than one-quarter mile from the school. There were 50 per cent who lived less than one-half mile from the school, 56 per cent who lived less than three quarters mile from the school, 69 per cent who lived less than one mile from the school, and 94 per cent who lived less than one and one-quarter miles from the school. There

TABLE 7.1

DISTANCE PROFESSIONAL SCHOOL PERSONNEL OF THE PUBLIC SCHOOL DISTRICT LIVED FROM SCHOOL 1961-1962

Distance in miles	Schools[*] A	B	C	D	E	F	G	Total
0 to ¼	0%	0%	67%	36%	22%	33%	46%	34%
¼ to ½	50	33	33	27	22	0	23	23
½ to ¾	50	33	0	18	56	33	23	30
¾ to 1	0	33	0	9	0	33	0	9
1 to 1¼	0	0	0	9	0	0	0	2
Rural	0	0	0	0	0	0	8	2

Note: This data does not include one superintendent who lived within one-half mile of his place of work.

[*] The letters represent the schools. The number of professional personnel employed is given below.

A - Central Cottage,	N = 2
B - Fairground,	N = 3
C - Hillside Cottage,	N = 3
D - Junior High,	N = 11
E - John W. Russell,	N = 9
F - Sparling,	N = 6
G - Senior High,	N = 13
Total - - - -	N = 47

TABLE 7.2

DISTANCE ALL PROFESSIONAL SCHOOL PERSONNEL LIVED FROM THE SCHOOLS 1961-1962

Distance in miles	School Systems[*]						
	A	B	C	D			Total
				1	2	3	
0 to ¼	34%	0%	44%	18%	0%	13%	28%
¼ to ½	23	33	6	45	60	50	26
½ to ¾	30	11	6	18	20	19	22
¾ to 1	9	22	13	0	0	0	9
1 to 1¼	2	11	25	0	0	0	7
1¼ to 1½	0	11	0	0	0	0	1
On campus	0	0	0	18	20	19	3
Rural	2	11	6	0	0	0	3

Note: This data does not include two superintendents, one within one-half mile and one within three-quarters mile of his place of work.

[*] The letters represent the school systems. The number of professional school personnel employed in each school system is given below.

A - Public School District, N = 47
B - School Division, N = 9
C - Separate School District, N = 16
D - Private schools,
    1 - Camrose Lutheran College, N = 11
    2 - Camrose Lutheran Bible Institute, N = 5
    3 - Sub-totals - - - - - N = 16

Total - N = 88

were 6 per cent that lived in the rural area. Of the 44 per cent who lived more than three-quarters mile from the school, 13 per cent lived at the Roman Catholic hospital which was the only residence for the reverend sisters.

The two private schools presented a somewhat different situation for the distribution of personnel. The Camrose Lutheran College employed eleven, and the Canadian Lutheran Bible Institute employed five making a total of sixteen professional adult personnel. Of this number 19 per cent lived on campus. There were 82 per cent who lived less than one-half mile from their place of employment, and 100 per cent who lived less than three-quarters mile from their work.

The distribution of all the adult professional personnel, as shown on Table 7.2, was examined to determine how far the professional personnel lived from the schools in which they were employed. The analysis indicates that 28 per cent lived within one-quarter mile, that 54 per cent lived within one-half mile, that 76 per cent lived within three-quarters mile, and that 85 per cent lived within one mile of the school. There were 3 per cent who lived in the rural area, 3 per cent who lived on campus, and 8 per cent who lived more than one mile from the school but within the city.

In addition to the eighty-eight professional personnel employed in schools, there were two school superintendents, one living within one-half mile of his office, and one living within three-quarters mile of his office.

Comparison of the distribution by distance in the school systems. The three day-school systems and the private schools showed different distributions by distance from school for the professional personnel. The Public School District had a much higher percentage of its teachers living near the schools than had either the Separate School District or the Camrose School Division. The percentage of Separate School District teachers living near the school was higher than at the Camrose School Division. The private schools showed the highest percentage of teachers living near the school of any of the school systems.

Summary. There were eighty-eight professional personnel employed in the schools in the city. Out of this number 28, 54, 76, and 85 per cent lived within one-quarter, one-half, three-quarters, and one mile respectively of the school in which they were employed. There were 3 per cent who lived in the rural area, 3 per cent who lived on campus, and 8 per cent who lived within the city but more than one mile from the place of employment.

There were two school superintendents residing in the city. One lived within one-half mile, and the other lived within three-quarters mile of his office.

The distribution of professional school personnel was different for each school system. The highest percentage of professional personnel living near the schools was at the private schools. The Public School District had a much higher percentage of its teachers living near the schools than either the Separate School District or the Camrose School Division.

Non-professional Personnel

The percentage of non-professional adult personnel living at various distances from their places of employment in the Camrose school systems is shown on Tables 7.3 and 7.4

Distance personnel lived from place of employment. The Camrose Public School District employed seven non-professional persons in its schools. Out of this number, as shown on Table 7.3, 57 per cent lived within one-quarter mile, 71 per cent lived within one-half mile, and 85 per cent lived within three-quarters mile of their place of work. Another 14 per cent lived from one to one and one-quarter miles from their place of work.

For the Sifton School, operated by the Camrose School

TABLE 7.3

DISTANCE NON-PROFESSIONAL SCHOOL PERSONNEL OF THE PUBLIC SCHOOL DISTRICT LIVED FROM SCHOOL 1961-1962

Distance in miles	Schools* A	B	C	D	E	Total
0 to ¼	100%	100%	0%	100%	0%	57%
¼ to ½	0	0	0	0	50	14
½ to ¾	0	0	100	0	0	14
¾ to 1	0	0	0	0	0	0
1 to 1¼	0	0	0	0	50	14

Note: The number of non-professional adult personnel at each school is indicated below.

*The letters represent the schools.

A - Fairground,	N = 1
B - Junior High,	N = 2
C - John W. Russell,	N = 1
D - Sparling,	N = 1
E - Senior High,	N = 2
Total - - -	N = 7

Division with all of the eight non-professional personnel employed as bus drivers and with one of the eight employed as a janitor also, the percentages, as indicated on Table 7.4 were not as high as they were for the Camrose School District. Here 25 per cent lived within one-quarter mile of their work, and 38 per cent lived within one-half mile of their work. There were 13 per cent who lived three-quarters to one mile from work, 25 per cent who lived one to one and one-quarter miles from work, and 25 per cent lived in the rural area.

Saint Patrick's School, with two non-professional employees, showed a different distribution. One employee lived within one-quarter mile of the school, and the other employee was a rural resident.

The private schools provided dormitory accommodation for students and for some staff members. There were 57 per cent of the non-professional employees living on the campus, 14 per cent living within one-quarter mile of the school, and 21 per cent living from one-quarter to one-half mile of the school. In other words 92 per cent of the non-professional employees in the private schools lived within one-half mile, and 100 per cent lived within three-quarters mile of their place of employment.

There were eight non-professional employees working in three administrative offices. The Separate School

TABLE 7.4

DISTANCE ALL NON-PROFESSIONAL SCHOOL PERSONNEL LIVED FROM THE SCHOOLS 1961-1962

Distance in miles	School Systems*							
	A	B	C	D			E	Total
				1	2	3		
0 to ¼	57%	25%	50%	13%	17%	14%	25%	28%
¼ to ½	14	13	0	38	0	21	38	21
½ to ¾	14	0	0	13	0	7	25	10
¾ to 1	0	13	0	0	0	0	13	5
1 to 1¼	14	25	0	0	0	0	0	8
On campus	0	0	0	38	83	57	0	21
Rural	0	25	50	0	0	0	0	8

Note: The number of non-professional adult personnel in each school system is indicated below.

*The letters represent the school systems.

A - Public School District, N = 7

B - School Division, N = 8

C - Separate School District, N = 2

D - Private Schools,
  1 - Camrose Lutheran College, N = 8
  2 - Canadian Lutheran Bible Institute, N = 6
  3 - Sub-totals, - - - - N = 14

E - Administrative offices of the Public School District, the Separate School District, and the School Division, N = 8

Total - N = 39

District had one employee who had his office in his home. The Public School District had one non-professional employee in its office on Fiftieth Street and near Forty-ninth Avenue. The Camrose School Division employed six persons in its office and garage on Forty-ninth Street and near Fiftieth Avenue. Out of this group 25 per cent lived less than one-quarter mile, 63 per cent lived less than one-half mile, 88 per cent lived less than three-quarters mile, and 100 per cent lived less than one mile from work.

The distribution of all the adult non-professional personnel, as shown on Table 7.4, indicates, when the thirty-nine non-professional employees are considered together, that 28 per cent lived less than one-quarter mile, that 49 per cent lived less than one-half mile, that 59 per cent lived less than three-quarters mile, that 64 per cent lived less than one mile, and that 72 per cent lived less than one and one-quarter miles from work, that 21 per cent lived on a school campus, and that 8 per cent lived in the rural area. This means that 70 per cent of the employees lived on a campus or less than one-half mile from work, and that 80 per cent of the employees lived on a campus or less than three-quarters mile from work.

Comparison of the distribution by distance in the school systems. The three day-school systems, the private schools, and the administrative offices showed different distribution by distance for the non-professional personnel. It is indicated on Table 7.4 that the private schools had a higher percentage of personnel (92 per cent) living either on the campus or within one-half mile of the campus than the other school systems. The Public School District had a much higher percentage of its non-professional adult personnel living within one-half mile (71 per cent) or within three-quarters mile (85 per cent) of the schools than had the Separate School District (50 per cent) or the Camrose School Division (38 per cent). Only the Separate School District and the Camrose School Division had employees who lived in the rural area.

Summary. There were thirty-nine non-professional adult personnel employed in the school systems in Camrose. Out ofthis number 28, 49, 59, and 64 per cent lived one-quarter, one-half, three-quarters, and one mile respectively from their place of employment. There were 21 per cent who lived on campus, 8 per cent who lived within the city but more than one mile from school, and 8 per cent who lived in the rural area.

The distribution of non-professional personnel was different for each school system. The private schools had a much higher percentage of non-professional personnel living on campus or within one-half mile of the school than the other school systems. A higher percentage of Public School District than Separate School District or Camrose School Division employees lived within one-half and within three-quarters mile of their place of employment.

3. CITY AREAS

The second part of Chapter VII deals with the distribution of adult personnel according to the city areas in which personnel lived. Distributions are examined to see if they are the same for all schools, to see if professional and non-professional personnel lived in the city areas in which they were employed, and to ascertain evidence of concentration of adult personnel. The second part is concluded with a comparison of the distribution of professional and of non-professional personnel.

Professional Personnel

The distribution of professional school personnel for each school is shown on Tables 7.5 and 7.6 according to the city areas in which they lived. The location of

TABLE 7.5

PERCENTAGE OF PUBLIC SCHOOL PROFESSIONAL PERSONNEL THAT LIVED IN EACH OF THE SIX CITY AREAS 1961-1962

Area	A N=2	B N=3	C N=3	D N=11	E N=9	F N=6	G[*] N=13	Total N=47
I	0%	0%	0%	9%	0%	17%	8%	6%
II	100	0	100	0	11	17	0	15
III	0	0	0	18	11	17	23	15
IV	0	33	0	45	44	17	46	36
V	0	67	0	27	22	33	15	23
VI	0	0	0	0	11	0	0	2
Rural	0	0	0	0	0	0	8	2

[*] The letters represent the Public Schools. The area in which each school was located is given below.

A - Central Cottage, Area II
B - Fairground, Area V
C - Hilside Cottage, Area II
D - Junior High, Area III
E - John W. Russell, Area II
F - Sparling, Area I
G - Senior High, Area III

TABLE 7.6

PERCENTAGE OF PROFESSIONAL SCHOOL PERSONNEL BY SCHOOL SYSTEMS THAT LIVED IN EACH OF THE SIX CITY AREAS

1961-1962

	School Systems					
	A	B	C	D*		Total
				1	2	
Area	N-47	N-9	N-16	N-11	N-5	N-88
I	6%	0%	44%	0%	0%	11%
II	15	33	6	18	40	17
III	15	0	0	9	0	9
IV	36	33	6	45	20	31
V	23	22	38	27	40	27
VI	2	0	0	0	0	1
Rural	2	11	6	0	0	3

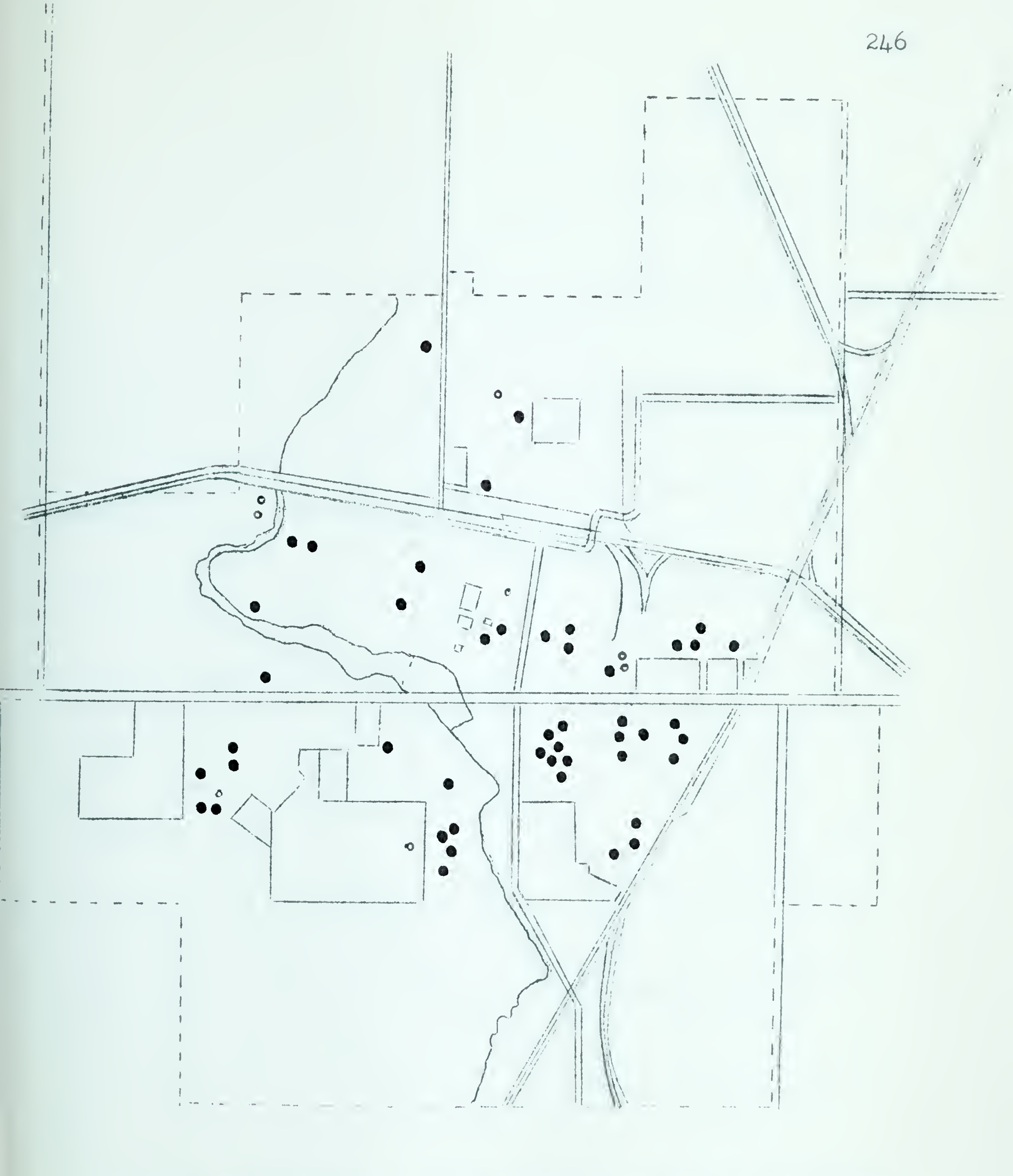
*The letters represent the school systems.

A - Camrose Public School District
B - Camrose School Division, Area III
C - Camrose Separate School District, Area I
D - Private Schools,
  1 - Camrose Lutheran College, Area IV
  2 - Canadian Lutheran Bible Institute, Area II

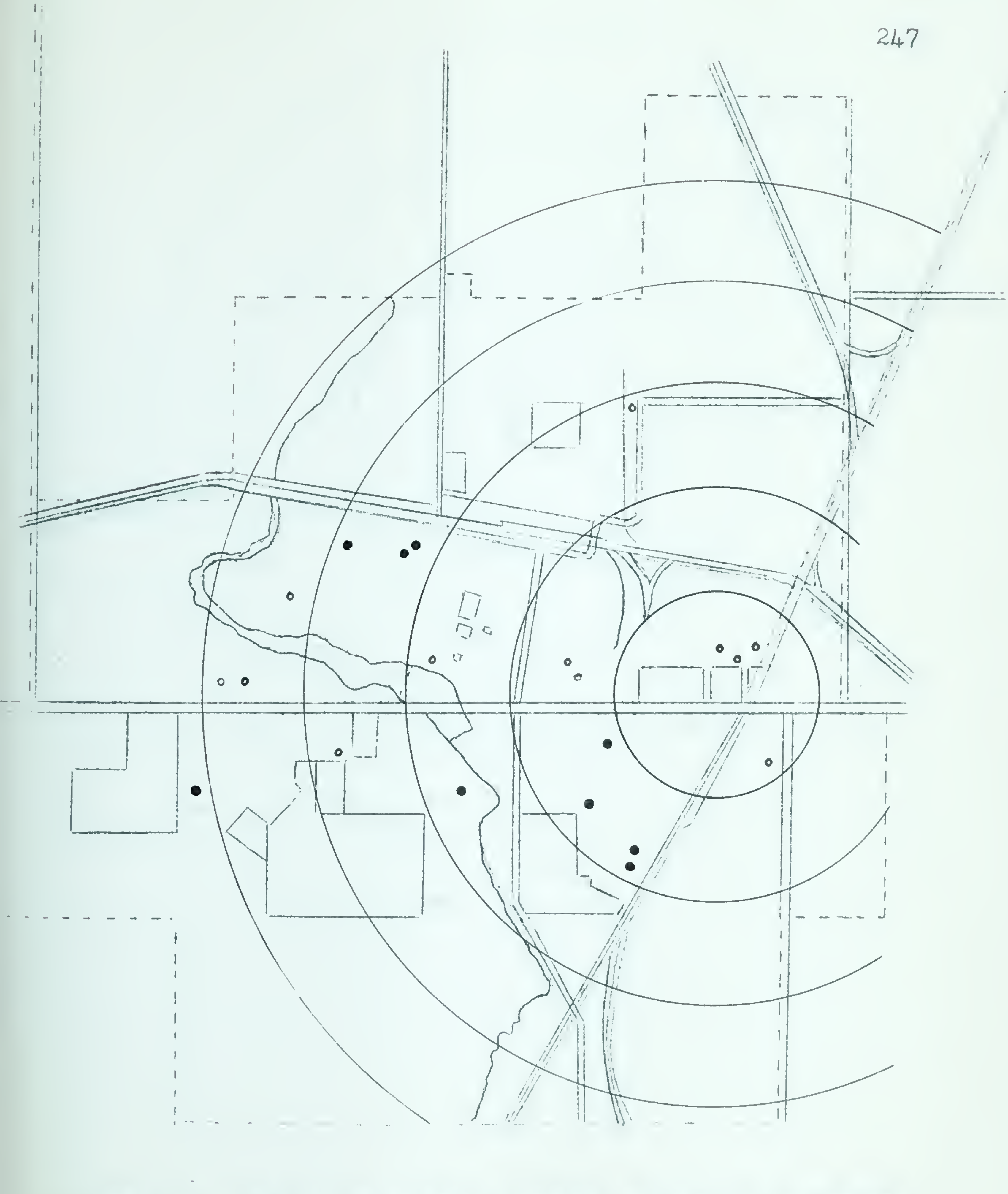
each school by city area is indicated in the footnote to the tables. The distribution of adult personnel for each school system and for two private schools is shown on Maps 18 to 20, pages 246 to 249.

City areas where professional personnel lived. The percentage of professional personnel employed by the Public School District that lived in each city area is indicated in Table 7.5. Map 18 shows the distribution of the same personnel. Out of a total of forty-seven employees, 6 per cent lived in Area I or north Camrose, 15 per cent lived in Area II or central west Camrose, 15 per cent lived in Area III or central east Camrose, 36 per cent lived in Area IV or southeast Camrose, 23 per cent lived in Area V or southwest Camrose, 2 per cent lived in Area VI or extreme west Camrose, and 2 per cent lived in the rural area. Areas IV and V, adjacent to each other, had 59 per cent of the professional personnel of the Public School District residing within their combined boundaries.

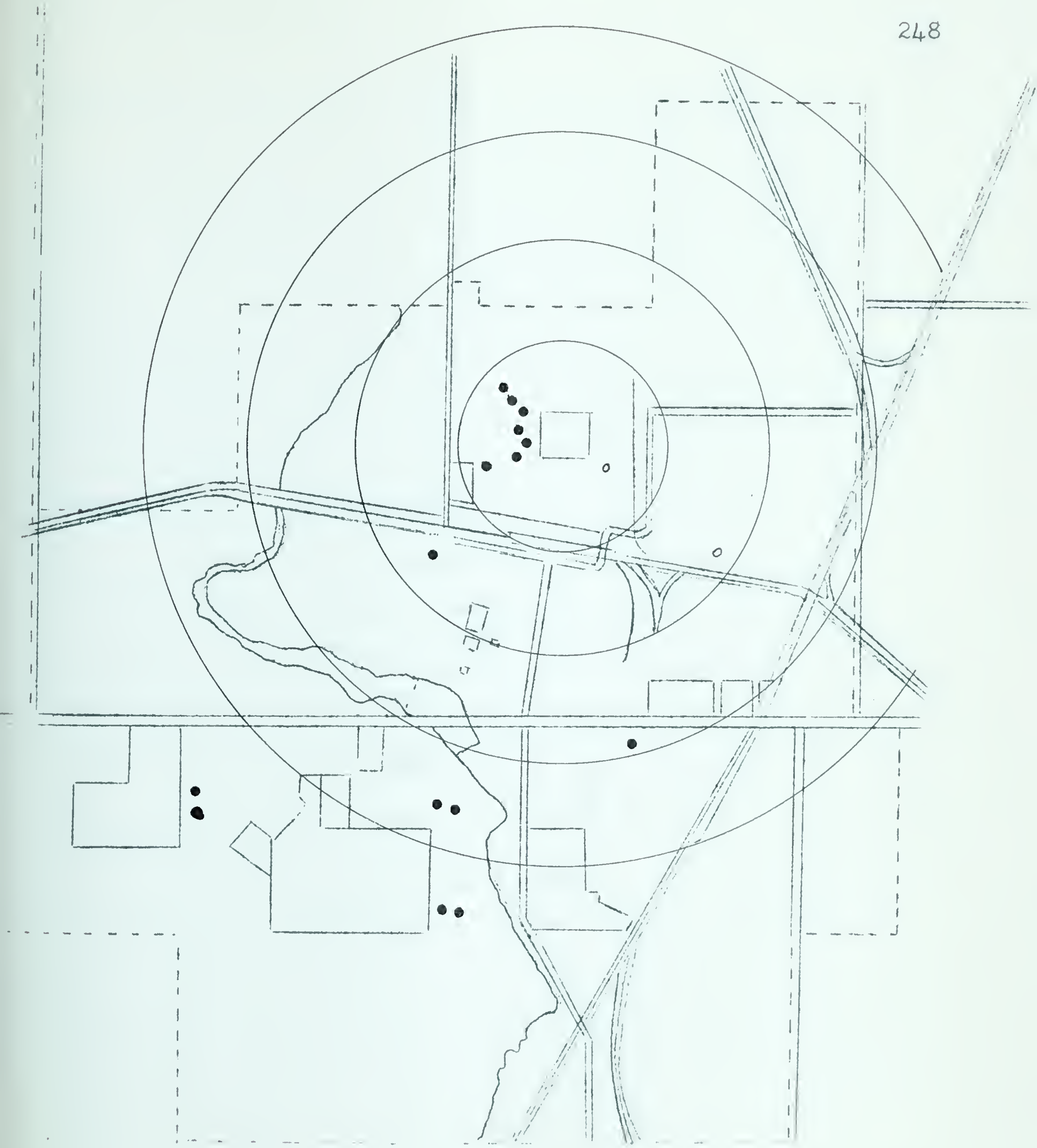
The distribution of professional personnel of the Camrose School Division, as shown on Table 7.6 and Map 19, indicates that 33 per cent lived in Area II, an area on the west side of the city; that another 33 per cent lived in Area IV, an area on the southeast side of the city; that 22 per cent lived in Area V or southwest Camrose;



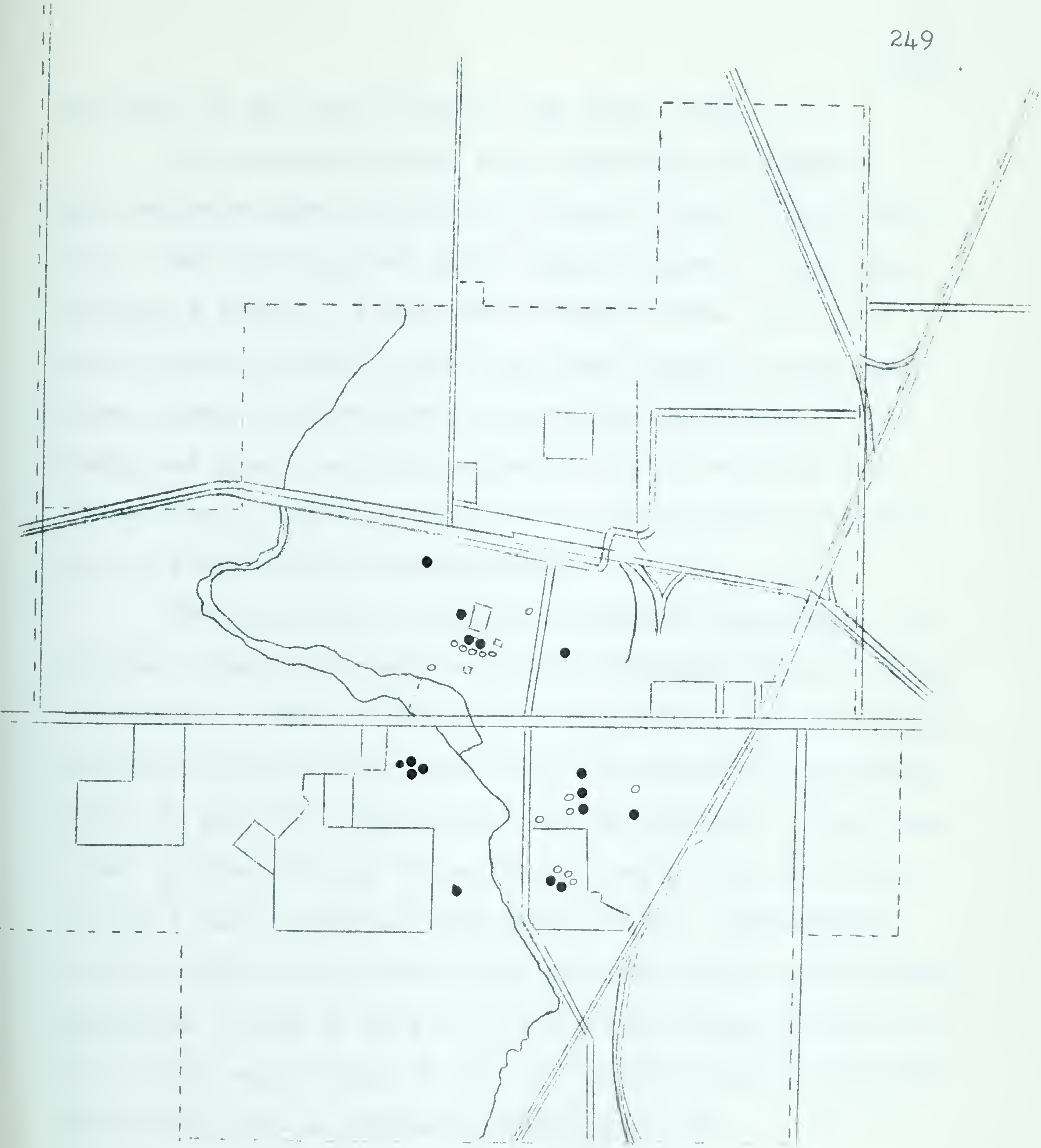
Map 18. Distribution of adult personnel employed by the Camrose Public School District. A solid dot represents one professional employee, and an open circle represents one non-professional employee.



Map 19. Distribution of adult personnel employed by the Camrose School Division. The radii of the concentric circles increase by a distance representing one-quarter mile. A solid dot represents one professional employee, and an open circle represents one non-professional employee.



Map 20. Distribution of adult personnel employed by the Camrose Separate School District. The radii of the concentric circles increase by a distance representing one-quarter mile. A solid dot represents one professional employee, and an open circle represents one non-professional employee.



Map 21. Distribution of adult personnel employed by the Camrose Lutheran College and by the Canadian Lutheran Bible Institute. A solid dot represents one professional employee, and an open circle represents one non-professional employee.

and that 11 per cent lived in the rural area.

The distribution of adult personnel employed by the Separate School District is shown on Map 20 and Table 7.6. There were 44 per cent living in Area I, 6 per cent living in Area II, 6 per cent living in Area IV, 38 per cent living in Area V, and 6 per cent living in the rural area. Area I on the north side of the city with 44 per cent, and Area V on the southwest side of the city with 38 per cent, had 82 per cent of the professional personnel living within their combined areas.

The distribution of adult personnel employed at the Camrose Lutheran College and at the Canadian Lutheran Bible Institute is shown on Map 21 and Table 7.6. At the Camrose Lutheran College 18 per cent of the professional personnel lived in Area II, 9 per cent lived in Area III, 45 per cent lived in Area IV, and 27 per cent lived in Area V. Areas IV and V had a combined percentage of 72. The Canadian Lutheran Bible Institute had 40 per cent of its professional personnel living in Area II, 20 per cent living in Area IV, and 40 per cent living in Area V. Areas II and V, adjacent city areas, had a combined percentage of 80.

It is indicated in Table 7.6 that there was a total of 88 professional personnel employed in the school systems. The adjacent Areas IV and V, with 31 per cent and 27 per cent respectively, showed the highest percentages of these

persons residing within their boundaries. Area I with 11 per cent, Area II with 17 per cent, Area III with 9 per cent, Area VI with 1 per cent, and the rural area with 3 per cent make up the places of residence for the remaining 41 per cent.

The two school superintendents resided in Area IV. They were in addition to the eighty-eight professional personnel reported above.

City areas where professional personnel worked. Professional personnel were employed in five city areas. The percentage of professional personnel employed in each city area is indicated in Table 7.7. There were two schools in Area I which employed 25 per cent, four schools in Area II which employed 21 per cent, three schools in Area III which employed 38 per cent, one school in Area IV which employed 13 per cent, and one school in Area V which employed 3 per cent of the professional personnel. The three adjacent city areas, Area I with 25 per cent, Area II with 21 per cent, and Area III with 38 per cent, had 84 per cent of the professional personnel employed within their boundaries.

Comparison of city areas where personnel lived and worked. By comparing Tables 7.6 and 7.7 certain observations were made. While 11 per cent of the professional employees

lived in Area I, there were 25 per cent employed in the same city area. There were 17 per cent living in Area II and 21 per cent working in the same city area. Only 9 per cent lived in Area III, but 38 per cent were employed in Area III. While 31 per cent lived in Area IV, only 13 per cent were employed in the area. There were 27 per cent living in Area V, and 3 per cent were working in the area.

TABLE 7.7

PERCENTAGE OF PROFESSIONAL SCHOOL PERSONNEL
EMPLOYED IN EACH CITY AREA
1961-1962

Schools	Area	Percentage
Sparling, N = 6	I	7%
Saint Patrick's, N = 16	I	18
Central Cottage, N = 2	II	2
Hillside Cottage, N = 3	II	3
John W. Russell, N = 9	II	10
Canadian Lutheran Bible Institute, N = 5	II	6
Junior High, N = 11	III	13
Senior High, N = 13	III	15
Sifton, N = 9	III	10
Camrose Lutheran College, N = 11	IV	13
Fairground, N = 3	V	3

An examination of these tables indicates that the percentages of professional personnel living and working in each area did not correspond. Area II, with percentages of 17 and 21, had the closest correspondence of personnel living and working in a city area.

A detailed examination of Table 7.5 indicates the relation between where personnel lived and worked in the Public School District. Both teachers employed at the Central Cottage School in Area II lived in Area II. There were two of the three teachers employed in Area V that lived in Area V. All of the teachers at the Hillside Cottage School, in Area II, lived in Area II. The Junior High School, in Area III, had 18 per cent only of its teachers living in Area III. However, 45 per cent of the teachers lived in the adjacent Area IV. Only 11 per cent of the teachers at the John W. Russell School lived in Area II where the school was located. The Sparling School in Area I had 17 per cent only of its teachers living in the same city area. There were 23 per cent of the Senior High School teachers living in Area III where the school was located, and 46 per cent living in Area IV, an adjacent city area.

The distribution of professional personnel in the Public School District indicates that city areas in which teachers lived were related somewhat to city areas in which schools where they taught were located. Some teachers, while not living in the city areas in which they were employed, lived in an adjacent city area.

Sifton School, located on the east edge of Area III, had none of its teachers living in the same city area.

While 33 per cent lived in Area IV adjacent to Area III on the south, as shown on Table 7.6,another 33 per cent lived in Area II, 22 per cent lived in Area V, and 11 per cent lived in the rural district. The data indicate no concentration of teacher domiciles in the city area in which the school was located. The data do show, however, some concentration in the adjoining city area, where one-third of the teachers lived.

Saint Patrick's School, located in Area I, had 44 per cent, as shown on Table 7.6, of its sixteen teachers living in Area I. There seemed to be some evidence that the teachers tended to live in the city area in which the school was located. However, 38 per cent of the teachers lived in Area V which was across the city from Area I.

The two private schools had sixteen professional employees, five employed in Area II, and eleven employed in Area IV. The Camrose Lutheran College, as shown on Table 7.6, had 45 per cent of its professional personnel living in Area IV where the school was located. There were two teachers living on the campus. The Canadian Lutheran Bible Institute had 40 per cent of its professional personnel living in Area II where the school was located. There was one teacher living on the campus. These percentages seem to indicate that there was a tendency for

professional personnel at the private schools to live in the city areas in which the schools were located.

Neither of the superintendents was employed in the city area in which he lived. Each lived in Area IV, an area for residences almost exclusively.

Comparison of the distribution by city area of the professional personnel in the school systems. According to Table 7.6, page 244, the majority of the Public School professional personnel (59 per cent) lived in Areas IV and V. In the Camrose School Division 33 per cent lived in each of Areas II and IV. The Separate School District had the highest percentage of its personnel living in Area I (44 per cent), followed by 38 per cent in Area V. At the private schools almost 100 per cent of the personnel lived in Areas II, IV, and V. This means that the distribution by areas for the school systems was different. Teachers of the Public School District lived in six city areas, those of the School Division lived in three city areas, those of the Separate School District and of the private schools lived in four city areas.

Concentration of residences of professional personnel in relation to school locations. The distribution of professional adult personnel seems to indicate two forms of

concentration, by distance from school and by city areas, as suggested on Tables 7.2 and 7.6. There were 79 per cent of the professional personnel living within three-quarters mile of the school in which they were employed. Thus, the tendency seemed to be to concentrate near the place of employment. There were 58 per cent of the professional personnel living in Areas IV and V--areas where a private school and three temporary classrooms only were located. However, Area IV was adjacent to Area III where thirty-three teachers were concentrated for employment. It is hypothesized that while nearness to the school may have been a factor in concentration of residences near school for some professional personnel, other factors, such as housing quality, length of employment in the school system, and the school system itself may have contributed to place of residence.

Summary. Some of the eighty-eight professional personnel employed in the schools lived in each of the six city areas, and 3 per cent lived in the rural area. There were 11, 17, 9, 31, 27, and 1 per cent in Areas I, II, III, IV, V, and VI respectively.

The two school superintendents lived in Area IV, and neither lived in the same city area as the one in which his office was located.

The distribution of professional personnel was different for each school system. The majority of Public School District professional personnel lived in Areas IV and V. In the Camrose School Division 66 per cent of the teachers lived in Areas II and IV. More Separate School District professional personnel (44 per cent) lived in Area I than in any other area. This was followed by Area V (38 per cent). The professional personnel for the private schools lived in Areas II, IV, and V.

Professional personnel were employed in five city areas. There were 25, 21, 38, 13, and 3 per cent employed in Areas I, II, III, IV, and V respectively.

There seemed to be some concentration of residences of Public School District professional personnel in the same or adjacent city areas as the city area of employment. Out of forty-seven teachers 30 per cent lived in the city area in which they were employed, and 36 per cent lived in Area IV which was adjacent to the junior and senior high school.

None of the teachers in the Camrose School Division lived in Area III where the school was located. However, 33 per cent lived in Area IV which was an adjacent city area. The location of the place of residence of the other teachers did not appear to be influenced by the location of the school.

In the Separate School District there was evidence that teachers tended to concentrate in the city area where the school was located. There were 44 per cent of the teachers living in Area I. However, there were 38 per cent living in Area V.

Teachers at the private schools tended to concentrate in the city area where they were employed. At the Camrose Lutheran College 45 per cent of the professional personnel lived in Area IV, the location of the school. At the Canadian Lutheran Bible Institute 40 per cent of the professional personnel lived in Area II, the location of the school. There were 27 per cent and 40 per cent of the teachers at the Camrose Lutheran College and at the Canadian Lutheran Bible Institute respectively that lived in Area V, an adjacent city area for each school.

Professional personnel of the Separate School District and of the private schools tended to concentrate in the city area in which they were employed more than the teachers of the Public School District and the Camrose School Division.

Professional personnel seemed to be concentrated by distance from school and by areas in the city. Since 79 per cent lived within three-quarters mile of the school there seemed to be a tendency for residences to be concen-

trated near schools. Over half the professional personnel were residentially concentrated in Areas IV and V. It is hypothesized that factors other than school location contributed to residential concentration of professional personnel.

Non-professional Personnel

The distribution of the non-professional personnel of the schools and of the school offices is shown on Tables 7.8 and 7.9. That the distribution of the personnel might be associated with the places of employment, the city area in which each of the schools was located is indicated in the footnotes to the tables. The distribution of adult personnel for each school system and for the two private schools is shown on Maps 18 to 21, pages 246 to 249.

City areas where non-professional personnel lived.

The distribution of the non-professional personnel in the Public School District is shown in Table 7.8 and on Map 18, page 246. Out of a total of seven employees at the schools, 14 per cent lived in each of Areas I, II, and V, and 29 per cent lived in each of Areas III and VI.

The Camrose School Division employed eight non-professional personnel at its school. (See Map 19, page 247) Table 7.9 shows that there were 38 per cent living in Area III, 13 per cent living in Area V, 25 per cent living in

TABLE 7.8

PERCENTAGE OF PUBLIC SCHOOL NON-PROFESSIONAL PERSONNEL THAT LIVED IN EACH OF THE SIX CITY AREAS

1961-1962

Area	A N=1	B N=2	C N=1	D N=1	E[*] N=2	Total N=7
I	0%	0%	0%	14%	0%	14%
II	0	0	0	0	14	14
III	0	29	0	0	0	29
V	14	0	0	0	0	14
VI	0	0	14	0	14	29

[*] The letters represent the Public Schools. The area in which each school was located is given below.

A - Fairground, Area V
B - Junior High, Area III
C - John W. Russell, Area II
D - Sparling, Area I
E - Senior High, Area III

Area VI, and 25 per cent living in the rural area.

The Separate School District employed two non-professional employees at the school. One of these lived in Area I, and one lived in the rural area.

The private schools employed fourteen non-professional personnel. (See Map 21, page 249) Of the eight employed at the Camrose Lutheran College, 25 per cent lived in Area II, and 75 per cent lived in Area IV. All of those employed at the Canadian Lutheran Bible Institute live in Area II.

There were three administrative offices employing a total of eight persons. There were 25 per cent residing in each of Areas I, II, and III, and 13 per cent residing in each of Areas IV and V.

It is shown on Table 7.9 that there were 39 non-professional personnel employed by the school systems. There were 64 per cent employed in three city areas--28 per cent in Area II, 18 per cent in Area III, and 18 per cent in Area IV. The remaining 36 per cent lived in Area I with 10 per cent, Area VI with 10 per cent, Area V with 8 per cent, and the rural area with 8 per cent.

City areas where non-professional personnel worked. The distribution of thirty-nine non-professional personnel according to the city areas in which they were employed is given in Table 7.10. There were three places of employment

TABLE 7.9

PERCENTAGE OF NON-PROFESSIONAL SCHOOL PERSONNEL BY SCHOOL SYSTEMS THAT LIVED IN EACH OF THE SIX CITY AREAS

1961-1962

	A	B	C	D		E[*]	Total
				1	2		
Area	N=7	N=8	N=2	N=8	N=6	N=8	N=39
I	14%	0%	50%	0%	0%	25%	10%
II	14	0	0	25	100	25	28
III	29	38	0	0	0	25	18
IV	0	0	0	75	0	13	18
V	14	13	0	0	0	13	8
VI	29	25	0	0	0	0	10
Rural	0	25	50	0	0	0	8

[*] The letters represent the school systems and the administrative offices.

A - Camrose Public School District
B - Camrose School Division, Area III
C - Camrose Separate School District, Area I
D - Private Schools,
  1 - Camrose Lutheran College, Area IV
  2 - Canadian Lutheran Bible Institute, Area II
E - Administrative offices, Areas I, II, and III.

in Area I employing a total of 11 per cent of the thirty-nine employees in the school systems. In Area II there were three places of employment where a total of 21 per cent of the non-professional personnel worked. Area III had four locations where 46 per cent of the non-professional personnel worked. There were 21 per cent employed in Area IV at one site. In Area V, 3 per cent of the employees worked.

Comparison of city areas where personnel lived and worked. By examining Tables 7.9 and 7.10 certain observations were made. There were 10 per cent of the non-professional personnel who lived in Area I, and 11 per cent were employed in the same city area. In Area II 28 per cent of the personnel lived, and 21 per cent worked in the city area. There were 18 per cent living in Area III, but 46 per cent were working in Area III. While 18 per cent lived in Area IV, 21 per cent worked in Area IV. Area V was the place of residence for 8 per cent, but only 3 per cent were employed in the city area. While 10 per cent lived in Area VI no non-professional personnel were employed in this city area. Eight per cent lived in the rural area. The examination of Tables 7.9 and 7.10 indicates that the percentages of personnel living and working in the different city areas did not correspond. The greatest difference was

in Area III. Percentages most nearly corresponded in Areas I and IV.

The analysis summarized on Table 7.8, page 260, indicates the relation between where personnel lived and worked in the Public School District. Non-professional personnel employed at the Fairground School, the Junior High School, and the Sparling School lived and worked in the same city area.

TABLE 7.10

PERCENTAGE OF NON-PROFESSIONAL SCHOOL PERSONNEL EMPLOYED IN EACH CITY AREA 1961-1962

Place of Employment	Area	Percentage
Sparling School, N = 1	I	3%
Saint Patrick's School, N = 2	I	5
Separate S. D. Office, N = 1	I	3
John W. Russell School, N = 1	II	3
C. L. B. I., N = 6	II	15
Public School Office, N = 1	II	3
Junior High School, N = 2	III	5
Senior High School N = 2	III	5
Sifton, N = 8	III	21
School Division, N = 6	III	15
Camrose Lutheran College, N = 8	IV	21
Fairground, N = 1	V	3

This was not true for the John W. Russell and the Senior High School.

The Sifton School, as shown on Table 7.9, page 262, with eight bus drivers, one of whom was employed as a janitor as well as a bus driver, was located in Area III. It had 38 per cent of its personnel living in Area III, but the others lived in Areas

V and VI and in the rural area. The analysis indicates only a slight relationship between the city area in which the school was located and the same city area for the residence of non-professional personnel.

The Separate School, with two non-professional employees, had one living in the same city area as the school and one living in the rural district.

Private residential schools presented a different picture from that presented by the day schools. One school, as shown on Table 7.9, page 262, had six employees all living on or near the campus, while the other school had eight employees with six living on or near the campus and in the same city area as the school. The analysis indicates a definite relationship in the city area of the place of residence and the place of employment for private school non-professional personnel.

The administrative offices of the Public School District, the Separate School District, and the School Division were located in Areas I, II, and III and employed eight non-professional persons. Table 7.9 shows that there were 75 per cent of the employees residing in the same city areas with another 13 per cent in Area IV, and 13 per cent in Area V. There were 75 per cent of the non-professional personnel living in Areas I, II, and III where they were employed.

Comparison of the distribution by city areas of the non-professional personnel in the school systems. The distribution by city areas of non-professional personnel differed with the school systems. According to Table 7.9 the majority of the Public School District non-professional personnel lived in Areas III and VI (58 per cent). The highest percentage for the School Division (38 per cent) was in Area III. With two employees in the Separate School District, 50 per cent lived in Area I and 50 per cent lived in the rural area. All of the private school employees lived in Areas II and IV. There were 75 per cent of the administrative office employees living in Areas I, II, and III.

Concentration of residence of non-professional personnel in relation to school location. The distribution of non-professional personnel seems to indicate that there were two kinds of concentration, one related to distance from work and one associated with city areas as suggested on Tables 7.4 and 7.9. There were 80 per cent of the non-professional personnel concentrated within three-quarters mile of their place of work and 70 per cent concentrated within one-half mile of their place of work. There were 28 per cent concentrated in Area II, and 18 per cent in both Areas III and IV, the three areas of highest concentration. There were seven sites employing non-professional

personnel in these areas. It is hypothesized that while concentration of non-professional personnel near schools may have been due to school location, other factors such as economic welfare, length of employment, and school system, may have influenced the place of residence of non-professional personnel.

Comparison of the distribution of professional and non-professional personnel. There were over twice as many professional as non-professional personnel in the sample studied. In each category the sample represented 100 per cent of the population.

The distance that professional and non-professional personnel lived from their place of employment is shown on Table 7.11. A higher percentage of non-professional than professional personnel lived within one-half mile of their place of employment. There were 21 per cent of the non-professional personnel living on a campus, and another 49 per cent living within one-half mile of the school making a total of 70 per cent. There were 57 per cent of the professional personnel who lived within one-half mile of the school and on a campus. However, within a three-quarter mile distance of their place of employment, 79 per cent and 80 per cent were the percentages for professional and non-professional personnel respectively.

The distribution of professional and non-professional

personnel is shown by city areas on Table 7.11. A much higher percentage of non-professional (56 per cent) than professional personnel (37 per cent) lived in Areas I, II, and III. Areas IV and V were the places of residence of 58 per cent of the professional personnel but were the places of residence of only 26 per cent of the non-professional personnel. A higher percentage of non-professional than professional personnel lived in the rural area.

TABLE 7.11

COMPARISON OF DISTRIBUTION OF PROFESSIONAL AND NON-PROFESSIONAL PERSONNEL 1961-1962

Distance in Miles	Percentage by distance A N=88	Percentage by distance B N=39	Area in City	Percentage by Area A N=88	Percentage by Area B[*] N=39
0 to ¼	28	28	I	11	10
¼ to ½	26	21	II	17	28
½ to ¾	22	10	III	9	18
¾ to 1	9	5	IV	31	18
1 to 1¼	7	8	V	27	8
1¼ to 1½	1	0	VI	1	10
On Campus	3	21	Rural	3	8
Rural	3	8			

Note: This data is summarized from Tables 7.2, 7.4, 7.6, and 7.9.

[*] The letters represent the categories of personnel.

A - Professional personnel

B - Non-professional personnel

The distribution by distance from work of professional and non-professional personnel excluding campus residents is shown on Table 7.12. A comparison of Tables 7.11 and 7.12 suggests that campus residence influenced the distribution of non-professional personnel more than professional personnel within the half-mile zone, but that beyond the three-quarter mile zone the influence on the personnel classifications was reversed. The percentage of non-professional personnel living within one-half mile of the place of employment was 70 per cent when campus residents were included but was 61 per cent when campus residents were not included.

TABLE 7.12

COMPARISON OF DISTRIBUTION OF NON-CAMPUS RESIDENT PROFESSIONAL AND NON-PROFESSIONAL PERSONNEL
1961-1962

Distance in Miles	Percentage by distance		Area in City	Percentage by Area	
	A N=85	B N=31		A N=85	B[*] N=31
0 to ¼	29	35	I	12	13
¼ to ½	27	26	II	16	19
½ to ¾	22	13	III	9	23
¾ to 1	9	6	IV	29	13
1 to 1¼	7	10	V	28	10
1¼ to 1½	1	0	VI	1	13
Rural	4	10	Rural	4	10

[*] The letters represent the categories of personnel.
A - Professional personnel
B - Non-professional personnel

For professional personnel when campus residents were included there was 57 per cent living within one-half mile, but when they were excluded the percentage was 56. Beyond the one-half mile zone the distribution of professional personnel varied little with or without the campus residents. Beyond the three-quarter mile zone the percentage of non-professional personnel residents (26 per cent) was higher than for professional personnel (21 per cent) when campus residents were excluded. When campus residents were included, in the same zone the percentage of professional personnel was 23 per cent and of non-professional personnel was 21 per cent.

Tables 7.11 and 7.12 show the distribution by city areas of professional and non-professional personnel including and excluding campus residents. The tables show that the exclusion of campus residents in the analysis of the distribution of professional personnel resulted in a variation of no more than 2 per cent in any of the city areas. The exclusion of the campus residents in the analysis of the distribution of non-professional personnel resulted in a variation from 2 to 9 per cent in the city areas. When campus residents were excluded, there was a decrease of 9 per cent in Area II where the Canadian Lutheran Bible Institute was located, a decrease of 5 per

cent in Area IV where the Camrose Lutheran College was located, and an increase of 5 per cent in Area III where two day schools were located.

Summary. Out of thirty-nine non-professional school personnel 10, 28, 18, 18, 8, 10, and 8 per cent lived in Areas I, II, III, IV, V, VI, and the rural area respectively.

The distribution of non-professional employees by city areas was different for each school system. Non-professional personnel of the Separate School District and of the private schools lived almost entirely in the city areas in which they were employed. In the Public School District the majority lived in Areas III and VI. The highest percentage for the Camrose School Division (38 per cent) was in Area III where the school, office, and maintenance garage were located. The majority of administrative office employees lived in Areas I, II, and III.

The distance from work and the city areas seemed to be related to residential concentration of non-professional adult personnel. Since 80 per cent and 70 per cent of the non-professional personnel lived within three-quarters and one-half mile respectively of their place of work, there seemed to be a tendency to concentrate near the place of employment. Over half the non-professional personnel were concentrated in Areas II, III, and IV. While nearness to

work may have been a factor in the place of residence, it is hypothesized that other factors contributed to residential concentration of non-professionals.

There were more non-professional than professional personnel living within one-half mile of their place of employment. The percentage in each category living more than three-quarters mile from their place of work was about the same.

While the distribution of professional and non-professional personnel differed for each school system, a higher percentage of non-professional than professional personnel lived in Areas I, II, and III. A higher percentage of professional than non-professional personnel lived in Areas IV andV. A higher percentage of non-professional than professional personnel lived in Area VI and in the rural district. Non-professional more than professional personnel tended to live in the city area in which they were employed.

When campus residents were included in the distribution of adult personnel, the percentage of non-professional personnel was higher than the percentage of professional personnel within the one-half mile zone. When campus residents were excluded, the percentage of non-professional personnel was higher but not as much higher as when the campus residents were included in the

one-half mile zone. When campus residents were included, the percentage of professional and non-professional personnel living within three-quarters mile of their work was approximately the same, but when the campus residents were excluded, slightly more professional personnel than non-professional personnel lived within the three-quarters mile zone.

When campus residents were included, there was a higher concentration of non-professional adult school personnel in Areas II and IV where two private schools were located.

4. CHAPTER SUMMARY

The detailed analysis of the distribution of adult school personnel answered six questions. The first five questions dealt separately with two categories of adult personnel--professional and non-professional. The sixth question dealt with the two categories together. The findings of this analysis are summarized below.

Question 1. How far did the adult school personnel live from their place of employment?

1. There were eighty-eight professional personnel employed in the schools in the city, and 28 per cent lived within one-quarter mile, 54 per cent lived within one-half mile, 76 per cent lived within three-quarters mile, and 85

per cent lived within one mile of the school in which they were employed. There were 3 per cent who lived in the rural area, 3 per cent who lived on campus, and 8 per cent who lived more than one mile from school, but within the boundaries of the city.

2. There were two superintendents residing in the city. One lived within one-half mile of his office, and the other lived within three-quarters mile of his office.

There were thirty-nine non-professional adult personnel employed by the school systems in Camrose, and 28 per cent lived within one-quarter mile, 49 per cent lived within one-half mile, 59 per cent lived within three-quarters mile, and 64 per cent lived within one mile of their place of work. There were 8 per cent who lived in the rural area, 21 per cent who lived on campus, and 8 per cent who lived more than one mile from work but within the boundaries of the city. This means that 70 per cent of the non-professional employees lived on campus or less than one-half mile from work, and that 80 per cent lived on campus or less than three-quarters mile from work.

Question 2. Was the distribution of the adult school personnel the same for all types of schools and administrative centres?

1. The distribution of professional school personnel

was different for each school system. The Public School District had a much higher percentage of its teachers living near the schools than either the Separate School District or the School Division. The private schools showed the highest percentages of teachers living near the schools of any of the school systems studied.

2. The distribution of non-professional personnel was different for each school system. The private schools had a higher percentage of non-professional personnel living on the campus or within one-half mile of the school than the other school systems. The Public School District had a much higher percentage of non-professional personnel living within one-half mile or within three-quarters mile of the schools than the Separate School District or the School Division.

3. The distribution of professional personnel by city areas was different for the school systems. The majority of the Public School District professional personnel lived in Areas IV and V. In the School Division the majority lived in Areas II and IV. The highest percentage in the Separate School District was in Area I, followed by Area V. For the private schools the personnel lived in Areas II, IV, and V.

4. The distribution of non-professional employees by city areas was different for each school system. In the

Public School District the majority lived in Areas III and VI. The highest percentage for the School Division was in Area III. All of the private school non-professional employees lived in Areas II and IV. The majority of administrative office employees lived in Areas I, II, and III. Separate School District employees lived in Area I and the rural area.

Question 3. In what city areas did the adult school personnel live?

1. Out of eighty-eight professional personnel employed in the schools of the city, 11 per cent lived in Area I, 17 per cent lived in Area II, 9 per cent lived in Area III, 31 per cent lived in Area IV, 27 per cent lived in Area V, 1 per cent lived in Area VI, and 3 per cent lived in the surrounding rural district.

2. The two school superintendents lived in AreaIV.

3. Out of thirty-nine non-professional school personnel 10 per cent lived in Area I, 28 per cent lived in Area II, 18 per cent lived in Area III, 18 per cent lived in Area IV, 8 per cent lived in Area V, 10 per cent lived in Area VI, and 8 per cent lived in the surrounding rural district.

Question 4. Did the adult personnel live in the same city areas as those in which they were employed?

1. In Area I there were 25 per cent of the professional school personnel employed, but 11 per cent only lived in the same city area. There were 21 per cent of the professional school personnel employed in Area II, and 17 per cent lived in Area II. In Area III 38 per cent of the professional school personnel were employed, while only 9 per cent lived in the same city area. Area IV had 13 per cent of the professional school personnel employed in one school, but 31 per cent of the professional school personnel lived in Area IV. Area V had 3 per cent employed within its boundaries, but 27 per cent lived in the same city area. Area VI and the rural district had no professional school personnel employed within their boundaries, but 1 per cent and 3 per cent lived in the respective areas.

2. The professional personnel of the Separate School District and of the private schools tended to reside in the same city area as the school in which they were employed more than did the professional personnel of the Public School District and the School Division.

3. Neither of the superintendents lived in the city area where his office was located.

4. The percentage of non-professional adult school personnel that lived and worked in Areas I, II, IV, and V varied by no more than 7 per cent. In Area III, 46 per cent of the non-professional school personnel were employed,

and 18 per cent lived in the same city area. None of the non-professional adult school personnel were employed in Area VI, but 10 per cent lived there. There were 8 per cent who lived in the rural district.

5. Non-professional adult school personnel of the Separate School District and of the private schools lived almost entirely in the city areas in which they were employed.

Question 5. To what extent were residences of adult school personnel concentrated in relation to school locations or other places of employment in the school systems?

1. Concentration of professional personnel's residences seemed to be associated with distance from work and with city areas. There were 79 per cent of the professional personnel concentrated within three-quarters mile of work. Over half (58 per cent) of the professional personnel were concentrated in Areas IV and V where a residential school and three temporary classrooms only were located. However, Area IV was adjacent to Area III where thirty-three teachers were employed.

2. Similarly, concentration of non-professional school personnel's residences seemed to be associated with distance from work and with city areas. There were 80 per cent concentrated within three-quarters mile of their

place of employment. There were 64 per cent of the non-professional personnel residentially concentrated in Areas II, III, and IV and employed at seven sites in these areas.

Question 6. How did the distribution of professional personnel compare with the distribution of non-professional personnel?

1. The distribution of professional and non-professional personnel was different for each school system.

2. When the totals were considered there was a higher percentage of non-professional personnel than of professional personnel living within one-half mile of the school since 21 per cent lived on campus. However, when a distance of three-quarters mile or more from the place of employment was considered, the percentages for professional and non-professional personnel were 20 per cent and 21 per cent respectively.

3. The distribution by city areas of professional and non-professional school personnel differed with each school system.

4. A higher percentage of non-professional personnel than professional personnel lived in Areas I, II, and III, while a higher percentage of professional personnel than non-professional personnel lived in Area IV and Area V.

A higher percentage of non-professional personnel than professional personnel lived in Area VI and in the surrounding district.

5. Non-professional employees tended much more than professional employees to live in the city area in which they were employed.

6. When campus residents were included, there were 21 per cent of the non-professional personnel and 20 per cent of the professional personnel living beyond the three-quarters mile zone. When campus residents were excluded, there were 26 per cent of the non-professional personnel and 20 per cent of the professional personnel living beyond the three-quarters mile zone.

7. When campus residents were included, there was a higher concentration of non-professional adult school personnel in Areas II and IV.

The problems of distribution in space for school personnel were overcome by the journey to school. Variations in the mode of travel and the frequency of travel occurred for pupil and adult personnel. These variations are analyzed in succeeding chapters.

CHAPTER VIII

THE JOURNEY TO SCHOOL BY PUPIL PERSONNEL

1. INTRODUCTION

Pupil personnel journeyed to and from school at least once daily, and many students made the journey twice daily. The journey was accomplished in a variety of ways. An analysis of how pupil personnel journeyed to school, and the manner in which they journeyed in relation to the location of the schools and the pupil distribution in the city is the task undertaken in Chapter VIII. The analysis is used to answer two main questions, each with related questions.

1. How did the pupil personnel journey to and from school?

    1.1 How did the mode of journey vary by seasons?

    1.2 How did the mode of journey vary by time of day?

2. How was the location of the school related to the mode of journey and to the frequency of journey to and from school?

    2.1 How did the mode of journey vary by schools?

    2.2 How was the mode of journey related to distance from school?

    2.3 How were the percentages of the pupils who had their noon lunch at school related to the distance from school?

Data for answering the questions were collected by means of a simple schedule which was distributed in late May, 1962 to all classrooms for completion by all pupils of the Camrose Public School District, of the Camrose Separate School District, and of the Camrose Lutheran College. Thus, the sample includes all pupils who were present on the day that the schedule was distributed to the pupils. Since the junior college classes had been dismissed before the month of May, these students were not included in the sample. All pupils of the Sifton School, a school operated by the Camrose School Division, travelled to and from school by bus making distribution of the schedule to this group of pupils unnecessary. Except for one at each school, all students at the Alberta Bible Institute and at the Canadian Lutheran Bible Institute lived on the campuses. This means that the data for this chapter were obtained from the Camrose Public Schools, from the Camrose Separate School, and from the Camrose Lutheran College.

While the schedule, a copy of which is in the Appendix, indicates thirteen modes of travel, these are grouped for data analysis under four categories. The first category consists of all pupil personnel who travelled to and from school independent of others--those pupils who walked,

who rode a bicycle, who rode a motor bicycle, and who drove a car. The second category is made up of pupil personnel who were dependent upon someone in their household to journey to and from school. The third category includes pupil personnel who were dependent upon a neighbour, or upon a parent and a neighbour taking turns, or upon a student who drove his/her own car or a family car to journey to and from school. The fourth category of pupil personnel is made up of all pupils who were transported partly or entirely by a bus in their journey to and from school. These four categories were used to analyze the journey to and from school of the elementary school pupils, junior high school pupils, and senior high school pupils.

Analysis of the data obtained by the instrument distributed to the pupils is presented in tabular form for the categories of travel which are described, and for the pupils who had lunch at school.

2. ELEMENTARY SCHOOLS

Data were collected on the journey to and from school from five hundred ninety-nine elementary school pupils of the Camrose Public School District and from two hundred twenty-one elementary school pupils of the Camrose Separate

School District, making a total of eight hundred twenty pupils. This figure represents ninety-five per cent of the total number of elementary school pupils studied in Chapter VI. Pupils were asked to indicate their mode of travel most frequently used in October, in January, and in May to school in the morning, from school at noon, to to school in the afternoon, and from school in the afternoon. The tabular summary of the analysis provides answers to the first question and its related questions.

Mode of Journey to and from School

Examination of Tables 8.1, 8.2, 8.3, and 8.4 shows that there was a variation in the mode of travel used by elementary school pupils. A much higher percentage of pupils in all schools journeyed to and from school independently at all seasons, at all times of day, and at all schools than by any other mode of travel. In second place as a means of travel for all except the Central Cottage School, was dependence on someone in their household. This was followed, for all schools except the Saint Patrick's School, by dependence on a neighbour or a neighbour and parent. The mode of travel least frequently used was the school bus, except for the Saint Patrick's School which had this mode of travel in third place.

Variations by seasons. The percentages for the four

modes of travel studied varied for the three seasons for which data were collected.[1] This variation is shown in Tables 8.1, 8.2, 8.3, and 8.4. The percentages for independent travel were highest in May and lowest in January, while the percentages for dependence upon someone in the household to journey to and from school were highest in January and, for most schools, lowest in May. Similarly, there were more pupils dependent upon a neighbour or a neighbour and parent in January than in October or May with the least dependence in May for all schools. Dependence upon a school bus varied little in the three seasons. The analysis suggests that the seasons had considerable influence on the independence of elementary school pupils in their journey to and from school.

Variation by time of day. The mode of travel varied with the time of day. The variation is indicated in Tables 8.1, 8.2, 8.3, and 8.4. It is shown in Table 8.1 that, out of eight hundred twenty pupils, more pupils

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[1] The following temperatures for Camrose in October, 1961, January, 1962, and May, 1962 were recorded.

	October	January	May
Average maximum:	50.1 F	21.5 F	63.0 F
Average minimum:	24.7 F	- 1.4 F	31.1 F
Long range mean: (30 years)	39.0 F	4.0 F	50.7 F

These data were obtained from the Geography Department, University of Alberta, Edmonton.

TABLE 8.1

PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL INDEPENDENT OF OTHERS 1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Central Cottage N = 57	To school	a.m.	79	60	98
	From school	a.m.	83	65	95
	To school	p.m.	81	56	91
	From school	p.m.	86	63	98
Fairground N = 79	To school	a.m.	72	48	95
	From school	a.m.	84	39	97
	To school	p.m.	77	37	70
	From school	p.m.	90	61	68
Hillside Cottage N = 67	To school	a.m.	82	55	94
	From school	a.m.	85	67	94
	To school	p.m.	84	58	93
	From school	p.m.	93	84	99
Junior High School N - 99	To school	a.m.	89	84	89
	From school	a.m.	87	83	88
	To school	p.m.	85	80	86
	From school	p.m.	92	90	92
John W. Russell School N = 195	To school	a.m.	79	53	93
	From school	a.m.	82	59	92
	To school	p.m.	79	53	91
	From school	p.m.	94	81	96
Sparling School N = 102	To school	a.m.	92	81	93
	From school	a.m.	91	89	91
	To school	p.m.	87	82	88
	From school	p.m.	99	96	98
Saint Patrick's School N = 221	To school	a.m.	69	54	78
	From school	a.m.	69	50	77
	To school	p.m.	66	49	77
	From school	p.m.	81	67	84
Totals N = 820	To school	a.m.	79	60	89
	From school	a.m.	81	62	88
	To school	p.m.	77	57	85
	From school	p.m.	89	77	90

TABLE 8.2

PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON SOMEONE IN THEIR HOUSEHOLD
1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Central Cottage	To school	a.m.	9	12	0
N = 57	From school	a.m.	5	9	0
	To school	p.m.	4	11	2
	From school	p.m.	4	16	0
Fairground	To school	a.m.	22	37	4
N = 79	From school	a.m.	8	16	1
	To school	p.m.	14	19	29
	From school	p.m.	6	25	30
Hillside Cottage	To school	a.m.	16	34	6
N = 67	From school	a.m.	7	18	3
	To school	p.m.	10	21	6
	From school	p.m.	6	10	1
Junior High School	To school	a.m.	5	10	6
N = 99	From school	a.m.	2	3	2
	To school	p.m.	3	5	3
	From school	p.m.	4	6	5
John W. Russell	To school	a.m.	11	31	5
N = 195	From school	a.m.	4	19	2
	To school	p.m.	9	26	3
	From school	p.m.	3	13	2
Sparling	To school	a.m.	7	17	7
N = 102	From school	a.m.	0	1	0
	To school	p.m.	3	7	3
	From school	p.m.	1	4	2
Saint Patrick's	To school	a.m.	18	29	9
N = 221	From school	a.m.	10	21	6
	To school	p.m.	12	22	6
	From school	p.m.	6	19	3
Totals	To school	a.m.	13	26	6
N = 820	From school	a.m.	6	14	3
	To school	p.m.	9	18	6
	From school	p.m.	4	14	5

TABLE 8.3

PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON A NEIGHBOUR OR NEIGHBOUR AND PARENT 1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Central Cottage N = 57	To school	a.m.	11	28	2
	From school	a.m.	7	23	2
	To school	p.m.	9	30	4
	From school	p.m.	7	21	2
Fairground N = 79	To school	a.m.	6	15	1
	From school	a.m.	4	10	1
	To school	p.m.	4	10	1
	From school	p.m.	4	14	1
Hillside Cottage N = 67	To school	a.m.	1	10	0
	From school	a.m.	6	6	1
	To school	p.m.	4	12	0
	From school	p.m.	1	6	0
Junior High N = 99	To school	a.m.	5	5	4
	From school	a.m.	0	0	0
	To school	p.m.	1	1	1
	From school	p.m.	4	4	3
John W. Russell N = 195	To school	a.m.	8	15	2
	From school	a.m.	4	9	1
	To school	p.m.	4	9	1
	From school	p.m.	2	5	1
Sparling N = 102	To school	a.m.	1	2	0
	From school	a.m.	0	0	0
	To school	p.m.	1	1	0
	From school	p.m.	0	0	0
Saint Patrick's N = 221	To school	a.m.	5	9	3
	From school	a.m.	3	6	2
	To school	p.m.	4	6	2
	From school	p.m.	2	4	2
Totals N = 820	To school	a.m.	5	11	2
	From school	a.m.	3	7	1
	To school	p.m.	4	8	1
	From school	p.m.	3	6	1

TABLE 8.4

PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON A SCHOOL BUS 1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Central Cottage N = 57	To school	a.m.	2	0	0
	From school	p.m.	2	0	0
Fairground N =79	To school	a.m.	0	0	0
	From school	p.m.	0	0	0
Hillside Cottage N = 67	To school	a.m.	0	0	0
	From school	p.m.	0	0	0
Junior High N = 99	To school	a.m.	0	0	0
	From school	p.m.	0	0	0
John W. Russell N = 195	To school	a.m.	2	1	0
	From school	p.m.	2	1	0
Sparling N = 102	To school	a.m.	0	0	0
	From school	p.m.	0	0	0
Saint Patrick's N = 221	To school	a.m.	9	9	9
	From school	p.m.	10	11	10
Totals N = 820	To school	a.m.	3	3	2
	From school	p.m.	3	3	3

went home independently in the morning and afternoon than arrived independently in the morning and afternoon in October and January and in the afternoon in May. In the morning in May, 89 per cent arrived independently. An examination of Tables 8.2 and 8.3 reveals that more pupils were dependent upon someone in the household, or upon a neighbour or a neighbour and parent to journey to school than to journey from school. Moreover, the degree of dependence was higher to journey to school in the morning than in the afternoon. The percentages of dependence upon others to journey from school in the morning and in the afternoon varied only slightly. The Saint Patrick's School was the only school which showed any variation in the time of day for dependence upon a school bus. Here the percentages were slightly higher in the afternoon than in the morning. For the same school percentages were higher in the morning than in the afternoon for dependence upon someone in the household or upon a neighbour and/or parent.

Briefly, the journey to school for elementary school pupil personnel was analyzed in four categories. These categories were found to rank (1) independent of others, (2) dependent upon someone in the household, (3) dependent upon a neighbour or a neighbour and parent,

and (4) dependent upon a school bus, in frequency of use. Modes of travel varied with the season and the time of day. The percentage of pupils travelling independently was reduced and dependence upon parents and neighbours to journey to school was increased in January. Percentages for independent travel were greatest in May. Dependence upon others to get to school tended to be greater than to journey from school except for those travelling by bus.

Relation of Mode of Journey to Location of School and Distance from School

The variation by schools in mode of journey to school and by distance from school, and the frequency of journey daily were investigated to determine the relation of the mode of journey to the location of the school and to the distance from school.

The mode of journey varied by schools. The Central Cottage School was located on Forty-ninth Avenue and Fifty-second Street and near the business area of the city. The school ranked first among the schools for dependence upon a neighbour or a neighbour and parent to journey to and from school. In October the school was exceeded by all schools except the Saint

Patrick's School and the Fairground School for independent travel. In January the school was third in independent travel in the morning. This ranking varied for the different periods of the day. In May the school showed a higher percentage of pupils travelling independently than any other school.

The Fairground School, temporary accommodation in an exhibits building on the exhibition grounds in the southwest part of the city, was located on the west side of a narrow strip of new residences along the west bank of Stoney Creek. To the west and north the school was separated from other residential areas by the exhibition grounds, by Saint Mary's Hospital, by Rosehaven, and by the Alberta Bible Institute. The Fairground School ranked low in independent travel by pupils. At the same time it ranked highest in dependence upon someone in the household, and was exceeded by the Central Cottage School only in dependence upon a neighbour and a parent. The degree of dependence increased sharply in January. The percentages for the afternoon in May suggests that there may have been a particular reason for the high precentage of dependence upon someone in the household to journey to and from school since the percentages of independence were very high in the mornings in the same month.

The Hillside Cottage School on Fifty-second A

Street and Forty-eighth A Avenue was in an old residential district with a fairly large newer residential area to the west of the school. Mirror Lake to the south of the school limited the size of the residential area on that side. This school ranked high among the seven schools in the percentage of pupils travelling independently. Dependence upon someone in the household or upon a neighbour or parent increased sharply in January with the greatest dependence upon someone in the household. The analysis shows that this dependence was greater for the journey to school than for the journey from school.

The elementary school classes located in the Junior High School building with a residential area to the north, west, and south, show little variation in the mode of travel throughout the three months studied. There were 89 per cent in October and May and 84 per cent in January of the pupils who journeyed independently to school in the morning.

The John W. Russell School was located on the west edge of the business centre of the city in an old residential area but with a fairly large residential area developed since 1945 to the west of the school. The mode of travel used by pupils varied widely with the seasons. While this school was located on the edge

of a fairly large residential area, the amount of independent travel was lower than for some of the other schools in October and was particularly low in January. A high percentage of the pupils travelled independently in May. A much higher percentage of the pupils in October and in January went home independently than arrived independently. A much higher percentage of pupils relied upon someone in the household than upon a neighbour or a neighbour or parent to get to or from school. Bus transportation was used by very few pupils.

Sparling School, situated north of the Canadian Pacific Railway with residential area to the west, north, and east of the school, shows little variation in the mode of travel used in the three months studied. A higher percentage of pupils journeyed to and from school independently here than at any other school. In January there was some increase in the dependence upon someone in the household to journey to school.

The Saint Patrick's School in Area I, the only school in the city operated by the Separate School District, had pupils attending from all city areas. A higher percentage of pupils was dependent upon someone to take them to and from school than at any other school. A higher percentage of pupils was dependent upon someone

in the household than was dependent upon a neighbour or a neighbour or parent. During the month of January almost half of the pupils were dependent upon someone to take them to and from school, except at 4:00 p.m. More pupils travelled independently in May than at any other time. A higher percentage of pupils at the Saint Patrick's School used a bus to travel to and from school than was the case in the Public School District.

How, then, did the mode of travel vary by schools? The Central Cottage, Hillside Cottage, and John W. Russell Schools were located within one block of each other in Area II and well within the city on sites selected before 1947. At these schools dependence upon adults to journey to school ranged from as high as 47 per cent to as low as 2 per cent of the pupils. Dependence was greatest in January, lowest in May, and greater to journey to school than from school. The Junior High School and the Sparling School, both situated on the periphery but near a fairly large residential area, had percentages for independent travel ranging from 80 to 99 per cent. The Fairground School, on the periphery and removed from a large residential area, had from 67 per cent in January to 3 per cent in May of its pupils dependent upon someone to take them to or from school. The Saint Patrick's School, also

on the periphery but with the entire city as its attendance area, had from 51 to 16 per cent of its pupils dependent upon others to journey to or from school.

Mode of journey related to distance from school. To relate the mode of travel to the distance from school, the percentages on Table 6.1, page 165, showing the distance elementary school pupils lived from school, are related to the percentage to school in the mornings on Tables 8.1, 8.2, 8.3, and 8.4 showing the mode of travel. Each school is considered separately, and the totals on the tables are compared.

While the percentages do not compare exactly, there is a relationship between the percentage of pupils who travelled to school and from school independently and the percentage of pupils who lived within one-half mile of school. When considering all the elementary school pupil personnel, the analysis shows that 65 per cent lived within one-half mile of school and that 79 per cent in October, 60 per cent in January, and 89 per cent in May travelled to school independently. A higher percentage of elementary school pupils journeyed to school independently in October (79 per cent) and in May (89 per cent) than lived within the one-half mile radius of the school (65 per cent), but a lower percentage of elementary

school pupils journeyed to school independently in January (60 per cent) than lived within the one-half mile radius. Even in January the percentage of independent travel to school was higher for all schools than was the percentage of pupils living within one-quarter mile of the school (34 per cent).

By comparing the percentages to school in the morning on Table 8.1 with the distribution on Table 6.1, a further relationship was noted between independent journeying to school and the personnel living within a one-half mile radius of the school attended. The percentages for elementary school pupil personnel within one-half mile of school and independent journeying to school in October were respectively as follows: for the Central Cottage School 80 and 79, for the Fairground School 65 and 72, for the Hillside Cottage School 87 and 82, for the Junior High School 88 and 89, for the John W. Russell School 54 and 79, for the Sparling School 95 and 92, and for the Saint Patrick's School 43 and 69. The percentages for independent journeying to school were lower in January and higher in May than for the month of October. The John W. Russell School and the Saint Patrick's School showed the greatest variation in the percentages.

There is some correlation between the total of pupils either journeying to school independently or

depending upon parents to get to school and the percentage of pupils living within one mile of school. Table 6.1 shows that there were 92 per cent of the elementary school pupil personnel living within one mile of school. Tables 8.1 and 8.2 show that 92 per cent in October, 86 per cent in January, and 95 per cent in May either journeyed independently or were dependent upon parents to get to school. There were 93 per cent in October, 91 per cent in January, and 95 per cent in May journeying from school in the afternoon by one of these two means. This suggests the hypothesis that when the distance to school is within one mile, dependence to get to and from school is within the family largely.

Next, percentages of rural pupils and of pupils who journeyed to school by bus are compared. The analysis shows that while 7 per cent of the pupils were rural residents, only 3 per cent of the pupils journeyed to and from school by bus. Only one school, the Fairground School, had no rural pupils, yet three schools only out of seven elementary schools had pupils that depended upon a bus to journey to school. (It should be noted here that the Public School District and the Separate School District did not operate buses. Any pupil travelling by bus rode on one operated by the Camrose School Division.)

Percentage of pupils having noon lunch at school related to distance from school. The percentages of pupil personnel who ate lunch at school, as shown on Table 8.5, are compared with percentages of distance from school as shown on Table 6.1, page 165. It seems probable that all or nearly all of the rural pupils would eat their noon lunch at the school. In the elementary school pupil personnel of the city, 13 per cent lived more than three-quarters mile from school, and 7 per cent were rural residents. Table 8.5 indicates that 10 per cent in October, 16 per cent in January, and 8 per cent in May had their noon lunch at school. It may be concluded that some children who lived more than three-quarters mile from school went home for lunch in October, and most of the city pupils went home for lunch in May. However, it seems likely that some pupils living less than three-quarters mile from school had their noon lunch at school in January.

An examination of Table 8.5 indicates that all schools had to make some provision for pupils to eat lunch at school, and that the demand upon this accommodation was much higher in January than in October and May for some schools while for others there was little difference for the three months studied.

TABLE 8.5

PERCENTAGE OF ELEMENTARY SCHOOL PUPIL PERSONNEL WHO ATE NOON LUNCH AT SCHOOL 1961-1962

Name of school	Percentage of pupil personnel		
	October	January	May
Central Cottage N = 57	5	3	3
Fairground N = 79	5	34	0
Hillside Cottage N = 67	1	9	1
Junior High N = 99	11	14	10
John W. Russell N = 195	8	12	6
Sparling N = 102	9	10	8
Saint Patrick's N = 221	18	23	15
Totals N = 820	10	16	8

At the Central Cottage School, with 2 per cent of rural pupil personnel and 4 per cent of the pupils living one to one and one-quarter miles from school, there were 5 per cent in October and 3 per cent in January and May who had lunch at school. There were 2 per cent of the pupils in October and none in January and May who journeyed by bus. This may have accounted for the lower percentage of pupils eating lunch at school during these two months. It seems likely that most of the pupils having lunch at school would be rural pupils.

At the Fairground School 5 per cent in October, 34 per cent in January, and none in May had lunch at school. At the same school 35 per cent of the pupils lived more than one-half mile from school. The analysis suggests that these pupils brought their lunch to school in January.

At the Hillside Cottage School 1 per cent in October and in May and 9 per cent in January had lunch at school. There were 3 per cent of the pupils who came from the rural area, 3 per cent who lived three-quarters to one mile from school, and 7 per cent who lived one-half to three-quarters mile from school. Since at least one of the rural pupils had lunch at her grandmother's home, the analysis suggests that in January some city pupils living from

one-half to one mile from school ate their noon lunch at school.

The Junior High School, with 9 per cent of its elementary school pupils rural residents and 3 per cent living from one-half to one mile from school, had 11 per cent in October, 14 per cent in January, and 10 per cent in May who ate lunch at school. It is probable that some city children living more than one-half mile from school had their noon lunch at school.

The John W. Russell School had 8 per cent in October, 12 per cent in January, and 6 per cent in May who had lunch at school. There were 5 per cent of the pupils who were rural and another 5 per cent who lived three-quarters to one and one-half miles from school. While 37 per cent of the pupils lived from one-half to three-quarters mile from school, most of these pupils must have gone home for their noon lunch in the three months that were studied.

The analysis for the Sparling School shows a different trend than for the other schools. While 95 per cent of the pupils lived less than one-half mile from school and only 3 per cent of the pupils were from the rural area, there were 9 per cent in October, 10 per cent in January, and 8 per cent in May who had lunch at school.

Moreover, there was little variation for the three months. The analysis suggests that some reason other than distance influenced the pupils to take lunch to school at this school.

At the Saint Patrick's School, with 13 per cent of the elementary school pupils from the rural area and 3 per cent living from one to one and one-half miles from school, there were 18 per cent in October, 23 per cent in January, and 15 per cent in May who had lunch at school. This could mean that 10 per cent of the elementary school pupils in October, 5 per cent in January, and 13 per cent in May were travelling home a distance of three-quarters mile or more at noon for their lunch.

In summary, it is concluded that generally where 80 per cent or more of the pupils lived within one-half mile of the school, there were not many pupils having noon lunch at school in October and May unless there were rural pupils in attendance. The number of pupils having noon lunch at school was influenced by the season. Factors other than distance and season seemed to influence the number of pupils having lunch at the Sparling School.

Summary

The mode of journey to and from school was analyzed in four categories. A much higher percentage of

elementary school pupils journeyed to and from school independently than by other means. Dependence upon someone in the household, dependence upon a neighbour or a neighbour and parent, and dependence upon a bus ranked second, third, and fourth respectively.

The mode of journey varied by the seasons. The percentages for independent travel were highest in May and lowest in January. The percentage of pupils dependent upon someone in the household or upon a neighbour and a parent was highest in January and lowest in May. There was little variation by seasons in dependence upon a school bus to journey to and from school.

The mode of journey varied by time of day. More pupils went home independently that arrived independently. Slightly more pupils journeyed to school independently in the morning than in the afternoon. More pupils journeyed from school independently in the afternoon than in the morning. More pupils were dependent upon someone to journey to school than to journey from school. More pupils were dependent upon someone in the household to journey to school in the morning than in the afternoon. There was little variation between morning and afternoon in the percentage of pupils who were dependent upon someone in the household to journey from school. More pupils

were dependent upon a neighbour or a neighbour and parent to journey to school than to journey from school. This dependence was greater in the morning than in the afternoon. Dependence upon a bus to journey to and from school varied in May only with slightly greater dependence in the afternoon.

The mode of journey varied by schools. The three public elementary schools in Area II had high percentages of pupils in January, had lower percentages in October, and had still lower percentages in May of pupils dependent upon adults to journey to and from school. The elementary school classes in the Camrose Junior High School and in the Sparling School had high percentages of pupils travelling independently to and from school in all seasons. The Fairground School had a high percentage of pupils dependent upon someone to get to school. The Saint Patrick's School had a high percentage of pupils dependent upon someone to journey to and from school and was the only school making any noticeable use of buses for elementary school pupil conveyance.

The mode of journey was related to distance from school. A higher percentage of elementary school pupils journeyed to school independently in October and in May than lived within one-half mile of school. A lower

percentage of elementary school pupils journeyed to school independently in January than lived within one-half mile of school. There were more pupils living in the rural area than were using a bus to journey to and from school. In January the percentages of independent journey for elementary school pupils to school was higher for all schools than percentage of pupils living within one-quarter mile of the school.

The analysis suggests the hypothesis that when the distance to school is within one mile the home assumes the responsibility largely for getting elementary school pupils to and from school.

There seemed to be a relationship between distance from school, the season, the mode of transportation, and the school or school system and the percentage of pupils who ate their noon lunch at school. When all elementary school pupils were considered, few pupils living within three-quarters mile in October, within one-half to three-quarters mile in January, and within one mile in May of the school had their noon lunch at school. At the Sparling School, where pupils tended to journey independently, pupils living less than one-half mile from school appeared to have had their lunch at school. The analysis indicated that pupils at the Saint Patrick's School did not travel as far for noon lunch as the pupils in the Public School District. The analysis suggested that rural pupils ate their lunch at school.

3. JUNIOR HIGH SCHOOLS

Data were collected for the journey to and from school from two hundred ninety-one junior high school pupils of the Camrose Public School District and from eighty-eight junior high school pupils of the Camrose Separate School District making a total of three hundred seventy-nine pupils or 97 per cent of the total number of junior high school pupils studied in Chapter VI. The data are summarized on four tables similar to those used for the journey to and from school for elementary school personnel, and on one table for the percentage of junior high school pupil personnel who ate noon lunch at school.

Mode of Journey to and from School

The modes of travel to and from school which were used by junior high school pupils are summarized on Tables 8.6, 8.7, 8.8, and 8.9. A much higher percentage of the pupils journeyed to and from school independent of others at all schools and at all times of day than by any other mode of travel during the three months studied. Dependence on someone in the household was the second mode of travel most commonly used with dependence upon a neighbour or a neighbour and parent occupying third place. The

Saint Patrick's School showed little difference in May in the last two modes of travel mentioned. Travel by bus was the least frequently used means of journeying to and from school. Since neither the City Public or Separate School Districts operated buses for the transportation of pupils, those pupils travelling by bus must have used buses operated by the Camrose School Division.

Variation by seasons. The percentages for the four modes of travel studied vary for the three seasons for which data were collected. The percentages of independent travel were highest in May and lowest in January, while the percentages for dependence upon someone in the household were highest in January and lowest in May. Dependence upon a neighbour or a neighbour and parent was highest in January and lowest in May for the total of the junior high school pupil personnel. However, the Camrose Junior High School had October percentages slightly lower than May percentages, and the Sparling School showed no difference in October and May. Since dependence upon a bus was very slight and varied little with the seasons, what variation there was seemed to be influenced by something other than the seasons. The analysis suggests that the seasons had considerable influence on the mode of travel used to journey to and from school for those not

TABLE 8.6

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL INDEPENDENT OF OTHERS

1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Camrose	To school	a.m.	82	62	82
Junior	From school	a.m.	82	76	88
High	To school	p.m.	79	68	86
N = 180	From school	p.m.	93	85	92
John W.	To school	a.m.	68	47	87
Russell	From school	a.m.	78	67	92
N = 60	To school	p.m.	72	53	88
	From school	p.m.	95	90	98
Sparling	To school	a.m.	98	90	100
N = 51	From school	a.m.	98	98	98
	To school	p.m.	96	90	98
	From school	p.m.	100	100	100
Saint	To school	a.m.	68	58	77
Patrick's	From school	a.m.	66	55	73
N = 88	To school	p.m.	65	52	70
	From school	p.m.	78	74	84
Totals	To school	a.m.	78	62	84
N = 379	From school	a.m.	82	72	86
	To school	p.m.	78	64	84
	From school	p.m.	91	85	92

TABLE 8.7

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON SOMEONE IN THEIR HOUSEHOLD

1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Camrose	To school	a.m.	13	27	12
Junior	From school	a.m.	2	6	2
High	To school	p.m.	9	15	6
N =180	From school	p.m.	4	11	4
John W.	To school	a.m.	23	38	12
Russell	From school	a.m.	15	17	5
N = 60	To school	p.m.	20	27	10
	From school	p.m.	3	10	2
Sparling	To school	a.m.	2	6	0
N = 51	From school	a.m.	0	0	0
	To school	p.m.	2	4	0
	From school	p.m.	0	0	0
Saint	To school	a.m.	13	24	6
Patrick's	From school	a.m.	6	13	3
N = 88	To school	p.m.	9	16	7
	From school	p.m.	6	9	1
Totals	To school	a.m.	13	25	9
N = 379	From school	a.m.	4	8	3
	To school	p.m.	10	16	6
	From school	p.m.	4	9	2

TABLE 8.8

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON A NEIGHBOUR OR NEIGHBOUR AND PARENT

1961-1962

Name of	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Camrose	To school	a.m.	4	11	5
Junior	From school	a.m.	4	7	4
High	To school	p.m.	3	6	3
N = 180	From school	p.m.	2	4	3
John W.	To school	a.m.	7	15	2
Russell	From school	a.m.	2	7	0
N = 60	To school	p.m.	3	10	0
	From school	p.m.	0	0	0
Sparling	To school	a.m.	0	2	0
N = 51	From school	a.m.	0	0	0
	To school	p.m.	0	2	0
	From school	p.m.	0	0	0
Saint	To school	a.m.	11	9	8
Patrick's	From school	a.m.	9	9	7
N = 88	To school	p.m.	7	7	5
	From school	p.m.	8	8	6
Totals	To school	a.m.	6	10	4
N = 379	From school	a.m.	4	6	4
	To school	p.m.	3	7	2
	From school	p.m.	3	4	3

TABLE 8.9

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON A SCHOOL BUS

1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel October	January	May
Camrose Junior H. N = 180	To school	a.m.	0	0	1
	From school	p.m.	0	0	1
John W. Russell N = 60	To school	a.m.	2	0	0
	From school	p.m.	2	0	0
Sparling N = 51	To school	a.m.	0	0	0
	From school	p.m.	0	0	0
Saint Patrick's N = 88	To school	a.m.	8	8	9
	From school	p.m.	8	8	9
Totals N = 379	To school	a.m.	2	2	2
	From school	p.m.	2	2	2

using the bus.

Variation by time of day. The mode of travel varied with the time of day. Of the three hundred seventy-nine pupils in the sample, Table 8.6 shows that more pupils journeyed from school independently than journeyed to school independently. This was true also when percentages for the schools were considered separately for the Camrose Junior High School and for the John W. Russell School, but it was not true entirely for the Sparling School and for the Saint Patrick's School. More pupils went home independently in the afternoon than in the morning at all schools. Table 8.7 shows that there were more pupils at all schools dependent upon someone in their household to bring them to school than there were to take them from school, and more were dependent upon someone in the morning than in the afternoon. While a higher percentage of all pupils, as indicated on Table 8.8, depended upon a parent or a neighbour to journey to school than to journey from school in the morning, the percentages for the afternoon did not show any uniform pattern. Percentages for each school showed that the Saint Patrick's School was the only one with a higher percentage dependent upon a neighbour or a neighbour and parent to journey from school in the afternoon than to journey to school in

the afternoon. This may be explained by the number of pupils who ate lunch at school. Dependence upon a school bus did not vary for the time of day.

Briefly, the journey to school for junior high school pupil personnel was analyzed in four categories. These categories ranked in frequency of use: (1) independent of others, (2) dependence upon someone in the household, (3) dependence upon a neighbour or a neighbour and parent, and (4) dependence upon a school bus. The modes of travel varied with the seasons and with the time of day. The percentage of pupils journeying independently was highest in May and lowest in January. Similarly, dependence upon others to journey to school was highest in January and lowest in May. The percentage of pupils dependent upon a bus did not vary in the three months. Except for those travelling by bus, more pupils journeyed from school independently than to school independently.

Relation of Mode of Journey to Location of Schools and Distance from School

To determine how the mode of travel varied by schools Tables 8.6, 8.7, 8.8, and 8.9 are examined. Each school is dealt with separately.

The mode of journey varied by schools. The mode of

travel varied by schools in the city. The Camrose Junior High School was located on the east side of the city on Forty-eighth Avenue and Forty-sixth Street with residential area to the north, west, and south. In October and January, as shown on Table 8.6, the school was exceeded by the Sparling School only for independent travel to and from school.. While it had an average of 87 per cent of its pupils who journeyed independently to and from school for the four times daily in May, the John W. Russell School had an average of over 90 per cent for the four periods in the day, and the Sparling School had nearly 100 per cent who journeyed to and from school independently in the same month. The percentage of pupils dependent upon someone in their household to journey to school was about doubled in January to what it was in October and more than doubled in January to what it was in May. These percentages for the mode of journey to school compare more nearly with those of the Saint Patrick's School than with the other two schools. It should be noted that the Camrose Junior High School and the Saint Patrick's School had the entire city for their attendance areas. The percentages for dependence upon a neighbour or a neighbour and parent, as shown on Table 8.8, indicate that again January percentages were about double those for October and May. The percentage dependent upon

a neighbour or a neighbour and parent was less than half the number who depended upon someone in their household. Dependence upon a bus, as Table 8.9 shows, was of only slight importance.

The John W. Russell School was located on Fifty-second Street and Forty-ninth Avenue and on the west edge of the main business area of the city. To the west and south was an old and a newer residential area. This school, as Table 8.6 shows, had much lower percentages of independent travel in October and January than had the Camrose Junior High School. In May the percentage of independent travel increased sharply. The percentages of dependence upon a neighbour or a neighbour and parent, as shown on Table 8.8, were much lower than were the percentages of dependence upon someone in the household, as shown on Table 8.7. However, January shows a considerable increase over October and May in dependence upon a neighbour or neighbour and parent. With only 2 per cent of the pupil personnel dependent upon a bus for any one month, as Table 8.9 shows, this form of transportation was not important to the city pupils.

The Sparling School was located north of the Canadian Pacific Railway and near the north edge of the city in or near low, medium, and high density residential

area to the east of the school. Almost 100 per cent of the pupils in October and in May journeyed to and from school independently. While the percentages were slightly lower in January, they still averaged over 90 per cent. A small group (2 to 6 per cent) depended upon someone in the household in October and January, and a still smaller group (2 per cent) depended upon a neighbour or a neighbour and parent in January to get to school.

The Saint Patrick's School, located on the northern periphery of the city and with the entire city as its attendance area, had lower percentages of independent travel than any other of the schools. During January almost one-half of the pupils depended upon someone to get to and from school except at 4:00 p.m. More pupils journeyed to and from school in the morning in October and January with someone in their household than with a neighbour or parent. Percentages were higher for dependence upon a neighbour or neighbour and parent than upon a parent in May. It is shown on Table 8.8 that the greatest degree of dependence upon a neighbour or neighbour and parent was at 9:00 a.m. and 12:00 noon. The Saint Patrick's School had 8 per cent in October and January and 9 per cent in May of its junior high school pupil personnel who journeyed to and from school by bus, a percentage higher than any of the other junior high schools.

In summary, it was concluded that a much higher percentage of pupils at all schools journeyed to and from school independently than by any other means of travel, the dependence upon someone in the household ranked next, followed by dependence upon a neighbour or a neighbour and a parent, and lastly, dependence upon a bus. The dependence upon each means of travel varied for each school. While three schools were located on or near the periphery of the city, the percentage of pupils using each of the four modes of travel varied for the three schools. One school centrally located near the business area of the city had lower percentages of pupils journeying to and from school independently than some of the schools on the periphery. Pupils at this school depended upon someone in their household to take them to and from school more than at any other school. While some pupils at all schools depended upon a neighbour or a neighbour and parent, the Separate School District showed the most regular use of this mode of travel in the three months studied. This district also had a higher percentage of pupils using the school buses for transportation than the Public School District.

Mode of journey related to distance from school. To relate the mode of journey to and from school to the

distance from school, percentages on Table 6.2, page 174, are compared with the percentages to school in the morning on Tables 8.6, 8.7, 8.8, and 8.9. It is shown on Table 6.2 that the percentage of junior high school pupils living within three-quarters mile of the school was 73 per-cent at the Camrose Junior High School, 85 per cent at the John W. Russell School, 99 per cent at the Sparling School, and 74 per cent at the Saint Patrick's School. The same table shows that the percentage of junior high school pupils living within one mile of the school was 86 per cent at the Camrose Junior High School, 95 per cent at the John W. Russell School, 99 per cent at the Sparling School, and 86 per cent at the Saint Patrick's School. While the Camrose Junior High School and the Saint Patrick's School had the same percentage of pupils living within three-quarters mile and within one mile of school, the percentage of pupils journeying independently was higher at the Camrose Junior High School than at the Saint Patrick's School. The John W. Russell School, with 85 per cent of its pupils living within three-quarters mile of school, had a lower percentage of pupils journeying independently than the Camrose Junior High School and had percentages quite closely related to the Saint Patrick's School for October and January. The Sparling School, with 99 per cent of its pupils residing within

three-quarters mile of school had almost 100 per cent of its pupils journeying to and from school independently. Only the Sparling Junior High School had approximately the same percentage of independent travel to school as the percentage of pupils living within a distance of three-quarters mile from school.

When totals of all schools are considered, 78 per cent of the pupils lived within three-quarters mile of school, and 89 per cent lived within one mile of school. In October 78 per cent, in January 62 per cent, and in May 84 per cent journeyed to school independently. In October 91 per cent, in January 85 per cent, and in May 92 per cent journeyed from school independently. Thus, the morning percentages of independent travel compared more nearly with the percentage of pupils living within three-quarters mile of the school except for the month of January, and the afternoon percentages of independent travel compared more nearly with the percentage of pupils living within one mile of the school.

It is shown on Table 6.2, page 174, that 7 per cent of the pupils lived in the rural area, but Table 8.9 shows that only 2 per cent of the pupils travelled by bus.

Next the percentages in Table 6.2 are compared with Table 8.7 and 8.8 to determine relationship between

distance from school and dependence upon others to journey to and from school. The Camrose Junior High School, as shown on Table 6.2, had 14 per cent of its pupils living more than one mile from school, and in October had 13 per cent and in May had 12 per cent of its pupils, as shown on Table 8.7, dependent upon some one in the household to journey to school in the morning. The same school had 27 per cent of its pupils living more than three-quarters mile from school and in January had 27 per cent of its pupils dependent upon someone in the household to get to school in the morning. There seems to be a definite relationship here in the distance beyond three-quarters mile and one mile, the season, and the dependence upon someone in the household to get to school. However, another group of pupils depended upon neighbours or neighbours and parents to journey to and from school. (4, 11, and 5 per cent to school in the morning for October, January, and May respectively.)

The John W. Russell School had 6 per cent of its pupils living more than one mile from school and 16 per cent of its pupils living more than three-quarters mile from school. There were 23 per cent in October, 38 per cent in January, and 12 per cent in May dependent upon someone in the household to take them to school in the

morning, and 3 per cent, 10 per cent, and 2 per cent in the respective three months depended upon someone in the household to take them home in the afternoon. These percentages showed no similarity between distance from school and dependence upon someone in the household to journey to and from school and suggest that some factor other than distance was determining the mode of transportation.

The Saint Patrick's School had 15 per cent of its pupils residing more than one mile, 27 per cent residing more than three-quarters mile, and 59 per cent residing more than one-half mile from school. While 12 per cent resided in the rural area, there were 8 per cent in October and January and 9 per cent in May of the pupil personnel journeying to and from school by bus. Thus, some rural pupils required other than bus transportation to journey to school. There were 32 per cent in October, 41 per cent in January, and 23 per cent in May that required some form of transportation to school in the morning, and 22 per cent in October, 25 per cent in January, and 16 per cent in May that required transportation from school in the afternoon. The analysis suggests the hypotheses that (1) in October and January pupils living beyond the three-quarters mile zone and some pupils living beyond the one-half mile zone required

transportation to school in the morning, (2) in May pupils living beyond the one mile zone and most pupils living beyond the three-quarter mile zone required transportation to school in the morning, (3) for the journey from school in the afternoon all pupils living beyond the one mile zone required transportation in the three months studied, and (4) in October and January most of the pupils living beyond the three-quarters mile zone required transportation for the journey from school.

When the percentages for all the junior high school pupils are considered, similarity is found between the percentage of pupils living over one mile from school (11 per cent) and the percentage in October dependent on someone in the household to journey to school in the morning (13 per cent), while the percentage of pupils residing more than three-quarters mile from school (22 per cent), compares with the percentage depending upon someone in the household to journey to school in January (25 percent). The percentage dependent upon someone in the household in May was 9. This compares with the percentage living over one mile from school (11 per cent). However, there were other pupils who depended upon a neighbour or a neighbour and a parent to journey to school.

The total percentage of junior high school pupil

personnel journeying to and from school independently or dependent upon a parent (the home assumes the responsibility), as indicated on Tables 8.6 and 8.7, are compared with the percentage of pupils living within one mile and within one and one-quarter miles of school. There were 91 per cent in October, 87 per cent in January, and 93 per cent in May of the pupils where the home assumed the responsibility for pupil personnel to journey to school. There were 95 per cent, 94 per cent, and 94 per cent for the same months where the home assumed the responsibility for pupil personnel to journey from school. There were 89 per cent and 93 per cent of the pupils living within one mile and one and one-quarter miles respectively of the schools they attended. This suggests the hypothesis that the home assumes the responsibility for the journey to school in the morning and from school in the afternoon when the distance does not exceed approximately one to one and one-quarter miles.

The examination of the two sets of tables made certain relationships evident. In October the percentage of pupils who depended upon someone to take them to school was equal to the percentage of pupils who lived more than three-quarters mile from school. In January the percentage of pupils who depended upon someone to take them to school was 3 per cent less than the percentage of pupils

who lived more than one-half mile from school. In May the percentage of pupils who depended upon someone to take them to school in the morning was 5 per cent more than the percentage of pupils who lived over one mile from school. Moreover, the proportion of the pupils who were dependent upon someone to take them to school seemed to vary with the location of the school. The percentage of pupils living one or one and one-quarter miles from school was approximately the same as the percentage of pupils where the home assumed the responsibility to journey to and from school. It appeared that the distance from school was not the only controlling factor in determining the mode of journey to school.

Percentage of pupils having noon lunch at school related to distance from school. To determine the relationship between the percentage of pupils having noon lunch at school and the distance from school, the percentages of distance from school, as shown on Table 6.2, page 174, are compared with the percentages on Table 8.10 showing the pupils who took lunch at school. Since 7 per cent of the junior high school pupils were from the rural area, it is likely that these pupils ate their noon lunch at school. It is shown on Table 8.10 that 9 per cent in October, 13 per cent in January, and 7 per cent in May of

the total junior high school population had their lunch at school. More than rural pupils must have had lunch at school in October and January.

TABLE 8.10

PERCENTAGE OF JUNIOR HIGH SCHOOL PUPIL PERSONNEL
WHO ATE NOON LUNCH AT SCHOOL
1961-1962

Name of school	Percentage of pupil personnel October	 January	 May
Camrose Junior High N = 180	8	11	6
John W. Russell N = 60	5	10	2
Sparling N = 51	2	2	2
Saint Patrick's N = 88	19	24	17
Totals N = 379	9	13	7

The Camrose Junior High School, with 7 per cent rural pupils, 1 per cent living one and one-quarter to one and one-half miles from school, and with 6 per cent living one to one and one-quarter miles from school, had 8 per cent in October, 11 per cent in January, and 6 per cent in May who ate lunch at school. These figures seem to indicate that in October and May some pupils travelled up to one and one-quarter miles at noon to go home for lunch.

At the John W. Russell School, with 4 per cent rural pupils, with 2 per cent living from one to one and one-quarter miles from school, and with 10 per cent living three-quarters to one mile from school, there were 5 per cent in October, 10 per cent in January, and 2 per cent in May who had lunch at school. For all months except May some pupils must have journeyed at least one mile to go home for lunch.

The Sparling School, with 2 per cent rural pupils, had 2 per cent of its pupils who ate lunch at school in the three months studied.

The Saint Patrick's School shows a higher percentage of pupils staying at the school for lunch than any of the other schools. There were 12 per cent who were rural pupils, 3 per cent who lived one to one and one-quarter miles from school, and 12 per cent who lived three-quarter to one mile from school. This means that 27 per cent likely lived more than three-quarter miles from school. There were 19 per cent in October, 24 per cent in January, and 17 per cent in May who ate their lunch at school. It is likely that some pupils living more than three-quarters mile from school did not go home for lunch in January, and that pupils living more than one mile from school did not go home for lunch in

October and May.[1]

In summary, it was concluded that some pupils must have travelled up to one and one-quarter miles to go home for a noon lunch. The distance travelled at noon by pupils to go home for lunch varied with the four schools studied. A much higher percentage of pupils at the Saint Patrick's School had lunch at school than at any of the other schools. The pupils at this school did not travel as far for lunch as the pupils at the Camrose Junior High School and the John W. Russell School. Rural pupils usually ate their noon lunch at school. The percentage of pupils eating lunch at school varied with the seasons. The percentages of pupils living more than one mile from school in October, more than three-quarters to one mile in January, and in the rural area only in May were comparable with the percentages of pupils eating noon lunch at school. It appeared that, while all schools needed some lunch facilities, some schools needed them more than others.

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[1] The analysis does not indicate which pupils stayed for lunch. It is hypothesized that other factors than distance affected school lunches at the Saint Patrick's School; for example, school custom, parental work patterns, school programming, or the magnetic effect of a large number of pupils eating lunch at school.

Summary

The mode of journey to and from school for junior high school pupil personnel was analyzed according to four categories. A much higher percentage of pupils journeyed to and from school independently than by any other means. Dependence upon someone in the household, upon a neighbour or a neighbour and parent, and dependence upon a school bus ranked second, third, and fourth respectively in use as modes of journey to school.

The mode of journey varied by seasons. The percentage of independent travel was highest in May and lowest in January. Dependence upon someone in the household or upon a neighbour or neighbour and parent was highest in January and lowest in May. Dependence upon a school bus varied little for the three seasons.

The mode of journey varied with the time of day. More pupils went home independently than arrived independently. More pupils journeyed from school independently in the afternoon than in the morning. More pupils were dependent upon someone in the household to journey to school than to journey from school and to journey to school in the morning than in the afternoon. The percentage of pupils dependent upon someone in the household to journey from school was about the same for both morning

and afternoon. More pupils were dependent upon a parent or neighbour to journey to school than to journey from school. The percentage of pupils dependent upon a parent or neighbour was higher in the morning than in the afternoon. Dependence upon a bus to journey to and from school showed no variation by time of day.

The mode of journey varied by schools. The junior high school classes in the John W. Russell School, centrally located in Area II, had lower percentages of independence in travelling to school than two other junior high schools on the periphery. The Sparling School and Camrose Junior High School, both on the periphery, showed the highest percentages of independent journeying to school by pupils. The most regular use of dependence upon a neighbour or neighbour and parent to journey to school was made by the Saint Patrick's School. More Separate School District than Public School District junior high school pupils journeyed to and from school by bus.

The mode of journey was related to distance from school. Only one of the junior high schools had its percentages of independent journey to school compare with the percentage of pupils living no more than three-quarters mile from school. The morning percentages of independent journey compared quite closely with the

percentage of pupils living within three-quarters mile of the school except in January, while the afternoon percentages compared quite closely with the percentage of pupils living within one mile of school. The analysis suggested that there was a relationship between the distance beyond three-quarters mile, the season, and the dependence upon someone in the household to get to school. There were more junior high school pupils living in the rural area than were using a bus to travel to and from school.

The percentage of pupils who ate their noon lunch at school was related to the distance from school and the season. More than rural pupils had their noon lunch at school. Some pupils must have travelled up to one and one-quarter miles to go home for noon lunch. A higher percentage of pupils at the Saint Patrick's School had lunch at school than at any of the other schools. The pupils at this school did not travel as far for lunch as the pupils at the Camrose Junior High School and the John W. Russell School.

4. SENIOR HIGH SCHOOLS

Data were collected on the journey to and from school for high school pupils in the City of Camrose. There were two hundred thirty-five pupils in attendance in the morning and two hundred twenty-nine pupils in

attendance in the afternoon at the Camrose High School from whom data were obtained. The morning sample represents 90 per cent, and the afternoon sample represents 87 per cent of the total senior high school population studied in Chapter VI. Data were obtained at the Saint Patrick's School from fifty-four pupils or 77 per cent of the high school population studied in Chapter VI. The sample from the Camrose Lutheran College is made up of one hundred forty-five pupils or 87 per cent of the total number of pupils from the school studied in Chapter VI. Percentages for the totals are based on four hundred thirty-four pupils in the morning or 87 per cent, and on four hundred twenty-eight pupils in the afternoon or 86 per cent of the total senior high school pupil personnel studied in Chapter VI. The data are summarized on four tables similar to those used for the journey to and from school for elementary and junior high school pupil personnel, and on one table for the percentage of senior high school pupil personnel who ate lunch at school.

Mode of Journey to and from School

The modes of travel to and from school which were used by senior high school pupils are summarized on Tables 8.11, 8.12, 8.13, and 8.14. A much higher percen-

tage of the pupils journeyed to and from school independent of others at all the schools and at all times of the day than by any other mode of travel during the three months studied. The amount of dependence upon the other three modes of travel varied with the schools, and they could not be ranked in order of importance for all schools. When considering the dependence upon someone in the household, upon a neighbour or a neighbour and parent, or upon a school bus to journey to and from school, the total attendance for all the senior high school pupils in the city shows that more pupils depended upon someone in the household and upon a neighbour or neighbour and parent than depended upon a bus to journey to school in the morning, but that this was not true of the journey from school in the afternoon. At that time the dependence was greater upon the bus for transportation.

Variation by seasons. The percentages, for the four modes of travel studied, vary for the three seasons for which data were collected. While percentages for independent travel were highest in May, they were only slightly higher than those for October. The Camrose Senior High School and the Saint Patrick's School show a greater decrease in independent travel in January than is shown at the Camrose Lutheran College where many students

resided on the campus. During January percentages were highest for dependence upon someone in the household to journey to school and for dependence upon a neighbour or a neighbour and parent to journey to school. May shows a slightly lower dependence upon these two modes of travel to and from school than October shows. Dependence upon a bus for transportation varied little with the seasons. The analysis suggests that the seasons had some influence on the mode of travel to and from the school.

Variation by the time of day. The mode of travel varied with the time of day. These variations were not as regular as they were for the elementary and the junior high school pupils. However, some patterns did exist.

More pupils journeyed from school independent of others than journeyed to school independent of others when totals for the city are considered as is shown on Table 8.11. Moreover, more pupils journeyed from school independently in the afternoon than journeyed from school independently in the morning. Slightly more senior high school pupils journeyed to school in the morning independently than journeyed to school in the afternoon independently. These generalizations apply, as Table 8.11 shows,

TABLE 8.11

PERCENTAGE OF SENIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL INDEPENDENT OF OTHERS

1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel		
			October	January	May
Camrose	To school	a.m.	68	56	69
High	From school	a.m.	71	63	72
N - [*]	To school	p.m.	64	55	66
	From school	p.m.	80	75	78
Saint	To school	a.m.	70	65	81
Patrick's	From school	a.m.	69	63	72
N = 54	To school	p.m.	74	70	78
	From school	p.m.	85	78	87
Camrose	To school	a.m.	84	81	86
Lutheran	From school	a.m.	79	79	79
College	To school	p.m.	80	80	80
N = 145	From school	p.m.	87	87	87
Totals	To school	a.m.	73	66	76
N = [*]	From school	a.m.	74	69	75
	To school	p.m.	71	65	72
	From school	p.m.	83	79	82

[*] Percentages for the Camrose High School are based on a total attendance in the morning of 235 and in the afternoon of 229. The percentages for the totals of all the schools are based on a morning attendance of 434 and an afternoon attendance of 428.

TABLE 8.12

PERCENTAGE OF SENIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON SOMEONE IN THEIR HOUSEHOLD 1961-1962

			Percentage of pupil personnel		
Name of School	Direction of travel	Time of day	October	January	May
Camrose High N = [*]	To school	a.m.	13	19	11
	From school	a.m.	5	5	3
	To school	p.m.	11	13	8
	From school	p.m.	3	4	3
Saint Patrick's N = 54	To school	a.m.	11	15	4
	From school	a.m.	13	15	9
	To school	p.m.	13	15	9
	From school	p.m.	2	7	0
Camrose Lutheran College N = 145	To school	a.m.	5	6	4
	From school	a.m.	0	0	0
	To school	p.m.	0	0	0
	From school	p.m.	1	1	1
Totals N = [*]	To school	a.m.	10	14	8
	From school	a.m.	4	5	3
	To school	p.m.	8	9	6
	From school	p.m.	2	3	2

[*] Percentages for the Camrose High School are based on a total attendance in the morning of 235 and in the afternoon of 229. The percentages for the totals of all the schools are based on a morning attendance of 434 and an afternoon attendance of 428.

TABLE 8.13

PERCENTAGE OF SENIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON A NEIGHBOUR OR NEIGHBOUR AND PARENT

1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel		
			October	January	May
Camrose High N = [*]	To school	a.m.	7	11	6
	From school	a.m.	5	7	7
	To school	p.m.	6	7	7
	From school	p.m.	5	8	7
Saint Patrick's N = 54	To school	a.m.	15	17	9
	From school	a.m.	7	9	7
	To school	p.m.	2	2	2
	From school	p.m.	9	11	7
Camrose Lutheran College N = 145	To school	a.m.	5	7	4
	From school	a.m.	0	0	0
	To school	p.m.	0	0	0
	From school	p.m.	2	2	2
Totals N = [*]	To school	a.m.	7	10	6
	From school	a.m.	3	5	5
	To school	p.m.	3	4	4
	From school	p.m.	4	6	5

[*] Percentages for the Camrose High School are based on a total attendance in the morning of 235 and in the afternoon of 229. The percentages for the totals of all the schools are based on a morning attendance of 434 and an afternoon attendance of 428.

TABLE 8.14

PERCENTAGE OF SENIOR HIGH SCHOOL PUPIL PERSONNEL WHO JOURNEYED TO AND FROM SCHOOL DEPENDENT ON A SCHOOL BUS

1961-1962

Name of school	Direction of travel	Time of day	Percentage of pupil personnel		
			October	January	May
Camrose High[*] N =	To school	a.m.	12	14	12
	From school	p.m.	12	13	12
Saint Patrick's N = 54	To school	a.m.	4	4	6
	From school	p.m.	4	4	6
Camrose Lutheran College N = 145	To school	a.m.	6	6	7
	From school	p.m.	10	10	10
Totals N = [*]	To school	a.m.	9	10	10
	From school	p.m.	10	11	11

[*] Percentages for the Camrose High School are based on a total attendance in the morning of 235 and in the afternoon of 229. The percentages for the totals of all the schools are based on a morning attendance of 434 and an afternoon attendance of 428.

to the Camrose High School, but they do not apply entirely to the Saint Patrick's School and to the Camrose Lutheran College. Neither of the two latter schools had a higher percentage of pupils journeying from school independently in the morning than journeying to school independently in the morning. In the afternoon the percentage of independent travel from school was greater than to school. The highest percentage of independent travel at all schools was from the school in the afternoon.

Percentages for dependence upon someone in the household to journey to and from school for the total attendance of senior high schools shows a pattern, as is indicated on Table 8.12, but the pattern does not hold for the three schools. When totals are considered, a higher percentage of pupils depended upon someone in the household to take them to school than to take them from school, and these percentages were greater in the morning than in the afternoon. This was true also for the Camrose High School. The Saint Patrick's High School pupils depended slightly more upon someone in the household to take them from school and to school at the noon period than to school in the morning except for the month of January. They had a considerable decrease in dependence at 4:00 p.m. Pupils at the Camrose Lutheran College

depended little on someone in the household for transportation to and from school. The greatest dependence was to school in the morning, while there was no dependence at the noon period. This was the opposite to the situation at the Saint Patrick's School. Percentages of dependence were least from school in the afternoon at all schools.

Some pattern of variance with time of day in dependence upon a neighbour or a neighbour and parent, as shown in Table 8.13, seems to exist. Examination of totals shows that a higher percentage of pupils depended upon a neighbour or parent to journey to school in the morning and from school in the afternoon than depended upon them at the noon period. This was true also for the Saint Patrick's School and for the Camrose Lutheran College. No pattern seemed to be evident at the Camrose High School.

While variation by time of day did exist for dependence upon a school bus for travel to and from school, the variation was slight. According to Table 8.14, 14 per cent of the pupils in the Camrose High School in January journeyed to school by bus, while 13 per cent journeyed from school by bus. The Camrose

Lutheran College had a higher percentage in October, January, and May who journeyed from school by bus than who journeyed to school by bus. Totals for the senior high schools show that there were one per cent more pupils in the city schools journeying from school by bus than there were journeying to school by bus.

Briefly, the four categories for the journey to school were ranked for high school pupil personnel by frequency of use as (1) independent of others, (2) dependent upon someone in the household, (3) dependent upon a neighbour or a neighbour or parent for January, and dependent upon a bus for October and May, and (4) dependent upon a neighbour or neighbour and parent for October and May, and dependent upon a bus for January. Modes of travel varied with seasons and time of day. Dependence for transportation was greatest in January and least in May. Dependence upon others was greater to journey to school than from school. Percentages of independent travel were greatest at 4:00 p.m.

Relation of Mode of Journey to Location of School and Distance from School

The mode of travel used by senior high school pupil personnel to journey to and from school varies with the three schools studied. Some comparisons and

contrasts are made by examination of Tables 8.11, 8.12, 8.13, and 8.14.

The mode of journey varied by schools. The Camrose Senior High School was located on Forty-eighth Avenue and Forty-sixth Street and had the entire Public School District as its attendance area. In addition to the pupils residing in the Camrose Public School District, some pupils attended the school from the Camrose School Division and were transported to and from school on buses operated by the Camrose School Division. There were lower percentages for independent travel at the Camrose High School than at the Saint Patrick's School. Percentages of independent travel at the Camrose High School were much lower than those for the Camrose Lutheran College at all times of day. When the four periods of the day are considered, the percentages of pupils dependent upon someone in the household to journey to and from school were exceeded by the Saint Patrick's School in October and January but not in May. Dependence upon someone in the household varied more in the four periods of the day at the Camrose High School than it did at the Saint Patrick's School. For dependence upon a neighbour or a neighbour and parent, percentages for the Camrose High School pupils varied less throughout the day than

they did at the Saint Patrick's School. The Camrose High School pupils depended less on a neighbour or a neighbour and parent to journey to school in the morning and from school in the afternoon than the pupils at the Saint Patrick's School. The Camrose High School ranked first among the three schools for dependence upon buses to transport pupils to and from school.

The Saint Patrick's Senior High School had the entire Separate School District as its attendance area. An additional group of high school students from the Camrose School Division were transported to and from school by buses operated by the School Division. It has already been mentioned that the percentage of independent travel to the school was higher than at the Camrose High School. More students went from school independently in the afternoon than at any other time of day. The percentage of pupils journeying to and from school independently at all times of the day was lower than those at the Camrose Lutheran College. There were more pupils at the Saint Patrick's High School dependent upon someone to take them from school at noon than at any other school. While January showed the highest percentages for dependence upon someone in the household, these percentages were not much higher (2 to 5 per cent)

than those for October but were much higher (7 to 11 per cent) than the percentages for May. The percentage of pupils depending upon someone in the household to take them from school in the afternoon was low (0 to 7 per cent). The percentage of pupils depending upon a neighbour or a neighbour and parent to journey to and from school varied considerably for the time of day. Percentages were highest for the journey to school in the morning (9 to 17 per cent). These were followed by the journey from school in the afternoon (7 to 11 per cent). At these periods of the day the percentages exceeded those of all the other schools. The percentage of pupils arriving at and departing from school by bus (4 to 6 per cent) was lower than at any other school. There was an increase in the use of bus transportation in May.

The Camrose Lutheran College had a far higher percentage of its pupils journeying to and from school independently (79 to 87 per cent) than the other schools. A contributing factor was that one hundred of the one hundred forty-five pupils, from whom data were secured for Table 8.11, lived on the campus. The lower percentage of independent travel at the noon hour seems to be due to the large percentage of pupils having their noon lunch at the school. None of the students depended upon

any one to journey from or to the school at noon. As was true with the other schools, the percentages were higher for the journey from school independently in the afternoon than at any other time of day. Dependence upon someone in the household or upon a neighbour or a neighbour and parent was about the same with more dependence to school in the morning than from school in the afternoon. More pupils journeyed from school by bus than arrived by bus.

To summarize, it is seen that a much higher percentage of pupils at the three schools journeyed to and from school independently than by any other means of travel. Dependence upon the other three modes of travel were difficult to rank; they varied by schools, by time of day, and by seasons. While the three schools were located on the city periphery and the attendance areas were about the same, the percentage of pupils at each school using each form of transportation varied for the three schools.

Mode of journey related to distance from school. To relate the mode of travel to and from school to the distance from school, percentages on Table 6.3, page 180, are related to the percentages on Tables 8.11, 8.12, 8.13, and 8.14. As shown by Table 6.3, 81 per cent of all the high school pupils lived on campus or within one mile of

school, while 68 per cent lived on campus or within three-quarters mile of school. There were 83 per cent in October, 79 per cent in January, and 82 per cent in May who journeyed from school independently in the afternoon, while the percentage journeying to school independently in the morning was 73, 66, and 76 for the three months--nearer the 68 per cent figure which represented the percentage of pupils residing within three-quarters mile of school. While 13 per cent of the pupils lived in the rural area, only 9 per cent, 10 per cent, and 10 per cent for the three months journeyed to school by bus. There were 18 per cent of the pupils living from three-quarters to one and one-half miles from school. It is shown on Tables 8.12 and 8.13 that 17 per cent in October, 24 per cent in January, and 14 per cent in May depended upon someone in the household or upon a neighbour and parent to take them to school in the morning.

The comparison of percentages on these tables suggests that, when the distance to school exceeded three-quarters mile, many students depended upon others for transportation, especially to school in the morning and during the month of January. It is seen that the per cent of pupils living within one mile of school (81 per cent) corresponds closely with the percentage of pupils

that went from school in the afternoon independently in October (83 per cent), January (79 per cent), and May (82 per cent). This suggests the hypothesis that students living within one mile of the school did not depend on others for transportation from school.

The distance travelled to and from school and the mode of travel for each school are compared by examining Tables 8.11, 8.12, 8.13, and 8.14 and Table 6.3 page 180. The Camrose High School had 57 per cent of its pupils residing within three-quarters mile of school, 77 per cent residing within one mile of school, 7 per cent residing from one to one and one-quarter miles of school, and 16 per cent residing in the rural area. Except for January (56 per cent), the percentage of pupils arriving independently in the morning (October 68 per cent and May 69 per cent) was greater than the percentage living within three-quarters mile of school (57 per cent) but less than the percentage living within one mile of school (77 per cent). The percentage journeying from school independently in the afternoon (October 80, January 75, and May 78 per cent) was about the same as the percentage living within one mile of school (77 per cent). By combining the percentages for the journey to school in the morning on Tables 8.11 and 8.12 (October 81 per cent,

January 75 per cent, and May 80 per cent) the totals approximate closely the percentage of pupils residing within one mile of the school (77 per cent). This suggests that when the distance does not exceed one mile, dependence for transportation to school is within the home. The percentage of pupils depending upon a neighbour or a neighbour or parent to journey to school in the morning (October 7 per cent, January 11 per cent, and May 6 per cent) was very nearly the same as the percentage of pupils living from one to one and one-quarter miles from school (7 per cent). This suggests the hypothesis that when the distance exceeds one mile, there is dependence upon persons outside the home to get to school. The percentage of rural residents (16 per cent) was slightly higher than the percentage of pupils who were transported by bus in the morning (October 12 per cent, January 14 per cent, and May 12 per cent), and in the afternoon (October 12 per cent, January 13 per cent, and May 12 per cent).

Tables 8.11 to 8.14 were compared with Table 6.3, page 180, for pupil personnel at the Saint Patrick's School. Table 6.3 shows that 75 per cent lived within three-quarters mile of school, 86 per cent lived within one mile of school, and 6 per cent lived one to one and one-quarter miles of school, and 7 per cent lived in the

rural area. Percentages of independent travel to and from school were less than the 75 per cent who lived three-quarters mile from school during two of the months studied (October 70 per cent, January 65 per cent, and May 81 per cent). The combined percentages for journeying to school in the morning on Tables 8.11 and 8.12 (October 81 per cent, January 80 per cent, and May 85 per cent) were higher than the percentage that lived within three-quarters mile of school. This suggests the hypothesis that within the city the home was likely responsible for transportation of pupils for at least a distance of three-quarters mile. There were 17 per cent who lived from three-quarters to one and one-quarter miles from school. This was approximately the percentage of pupils (October 15 per cent, and January 17 per cent) who depended upon a neighbour or neighbour and parent to journey to school in the morning. Thus, this suggests the hypothesis that beyond the three-quarters mile zone there was dependence upon persons outside the home during October and January. While 7 per cent lived in the rural area, less than 7 per cent used the bus to journey to and from school (October 4 per cent, January 4 per cent, and May 6 per cent).

Tables 8.11 to 8.14 are compared with Table 6.3,

page 180, for pupil personnel at the Camrose Lutheran College. It is shown on Tables 6.3 and 8.11 that the percentage of pupils journeying to school in the morning independently (October 84 per cent, January 81 per cent, and May 86 per cent) was approximately the same as the percentage living within three-quarters mile of school (84 per cent) while the percentage journeying from school independently in the afternoon (October 87 per cent, January 87 per cent, and May 87 per cent) was approximately the same as the percentage of pupils living within one mile of school (88 per cent). While 2 per cent of the pupils lived one to one and one-half miles from school, 3 per cent of the pupils depended upon someone to take them from school in the afternoon. Although 11 per cent of the pupils lived in the rural area, a lower percentage depended upon a bus to journey to school (October 6 per cent, January 6 per cent, and May 7 per cent) while 10 per cent depended upon a bus to journey from school.

In summary, certain relationships seemed to exist between the distance from school and the mode of travel. Except for the month of January more than the percentage of pupils that lived within three-quarters mile of school (68 per cent) journeyed to school independently (October

73 per cent, January 66 per cent, and May 76 per cent) while more nearly the same percentage of pupils that lived within one mile of school (81 per cent) journeyed from school independently (October 83 per cent, January 79 per cent, and May 82 per cent) in the afternoon. The combined data for Tables 8.11 and 8.12 suggest the hypothesis that pupils living within approximately one mile of school (81 per cent) either journeyed to school independently or relied on the home for transportation to school in the morning (October 83 per cent, January 80 per cent, and May 84 per cent) and from school in the afternoon (October 85 per cent, January 81 per cent, and May 84 per cent). Higher percentages than those who lived from one to one and one-half miles from school (5 per cent) depended upon neighbours or neighbours and parents to get to school in the morning (October 7 per cent, January 10 per cent, and May 6 per cent) while approximately the same proportion depended upon this transportation from school in the afternoon (October 4 per cent, January 6 per cent, and May 5 per cent). The percentage of pupils journeying to school by bus was slightly less than the percentage of pupil personnel living in the rural area.

Percentage of pupils having noon lunch at school related to distance from school. By comparing Table 6.3, page 180, and Table 8.15 the percentage of pupils having lunch at school was related to the distance from school. Table 6.3 shows that 40 per cent of the senior high school pupils lived on campus, in the rural area, or more than one mile from school. Table 8.15 shows that approximately the same percentage of the total high school population ate their noon lunch at school (October 41, January 44, and May 40 per cent). At the Camrose High School 23 per cent lived more than one mile from school, while 18 per cent in October, 23 per cent in January, and 17 per cent in May ate their noon lunch at school. Saint Patrick's School had 13 per cent of its pupils who lived more than one mile from school, and 11 per cent in October, 13 per cent in January, and 11 per cent in May had their noon lunch at school. At the Camrose Lutheran College 77 per cent of the pupils lived on campus or more than one mile from school, but 89 per cent had their noon lunch at school. Thus, all but 11 per cent of the pupils ate their lunch at the school, and Table 6.3 indicates that 12 per cent of the pupils lived within one-half mile of the school.

The relation between percentages of pupils having

noon lunch at school and the distance from school may be stated briefly. At the public and separate schools the percentage of pupils living more than one mile from school and the percentage of pupils who ate their noon lunch at school was approximately the same and was exactly the same in January.

TABLE 8.15

PERCENTAGE OF SENIOR HIGH SCHOOL PUPIL PERSONNEL
WHO ATE NOON LUNCH AT SCHOOL
1961-1962

Name of school	Percentage of pupil personnel		
	October	January	May
Camrose Senior High N = 235	18	23	17
Saint Patrick's N = 54	11	13	11
Camrose Lutheran College N = 145	89	89	89
Totals N = 434	41	44	40

At the Camrose Lutheran College the percentage of pupils living within one-half mile of school but not on campus and the percentage of pupils not eating lunch at school was approximately the same. The percentage of senior high school pupils eating their noon lunch at school was approximately the same as the percentage of senior high school pupils living on campus, in the rural area, and more than one mile from school.

Summary

The journey to and from school was analyzed according to four categories of travel. A much higher percentage of senior high school pupils journeyed to and from school independently than by any other means. Dependence upon a school bus, upon someone in the household, and upon a neighbour and parent as a mode of travel to and from school ranked second, third, and fourth respectively, when both the journey to and from school were considered.

The mode of journey varied by seasons. The percentage of pupils journeying independently to and from school was highest in May and lowest in January. Dependence upon a school bus varied little in the three seasons.

The mode of journey varied with the time of day. More pupils went home independently than arrived independently. Slightly more pupils journeyed to school independently in the morning than in the afternoon. A higher percentage of pupils journeyed from school independently in the afternoon than in the morning. More pupils were dependent upon someone to journey to school than to journey from school, and to journey to school in the morning than to school in the afternoon. More pupils were dependent upon someone in the household to journey from school in the morning than in the afternoon. A higher

percentage of senior high school pupils were dependent upon a neighbour or a neighbour and parent to journey to school than to journey from school in the morning. The reverse was true in the afternoon. Dependence upon a school bus was only slightly higher in the afternoon than in the morning.

The mode of journey varied by schools. The Camrose Lutheran College and the Saint Patrick's School ranked first and second for independent journey to and from school. The percentage of high school pupils depending upon someone to take them to and from school was higher at the Saint Patrick's School in October and in January in the morning than at the other two schools. The Camrose Lutheran College, a residential school, had the lowest percentage of the three schools for dependence upon someone in the household or upon a neighbour or a parent to take them to and from school. More pupils at the Camrose High School arrived and departed by bus than at either of the other high schools.

The mode of journey was related to distance from school. A comparison of percentages suggests that when the distance to school exceeded three-quarters mile, many students depended upon others for transportation, especially to school in the morning and during the month

of January. The percentage of pupils living within one mile of school and of those going from school independently in the afternoon compared quite closely. When the distance to school was approximately one mile, the responsibility for the journey to and from school seemed to be assumed by the home. There were more high school pupils living in the rural area than were journeying to and from school by bus.

The percentage of pupils who had their noon lunch at school was related to the distance from school and to the seasons. A comparison of percentages suggests that rural pupils ate their lunch at school. Percentages of pupils at the Camrose Senior High School and the Saint Patrick's Senior High School living more than one mile from school compared with percentages of pupils taking their noon lunch at school. Percentages at the Camrose Lutheran College of pupils living less than one-half mile from school but not on campus and pupils not having noon lunch at school corresponded.

5. CHAPTER SUMMARY

Each of the main questions and the related questions listed at the first of Chapter VII is repeated below. The answers for elementary, junior high, and senior high school

pupil personnel are summarized according to the findings reported in Chapter VIII.

Question 1. How did the pupil personnel journey to and from school?

1. A much higher percentage of elementary, junior high, and senior high school personnel journeyed to and from school independently than by any other means.

2. For elementary and junior high school pupils, dependence upon someone in the household ranked in second place, dependence upon a neighbour or a neighbour and parent ranked in third place, and dependence upon a school bus ranked in fourth place as a means of journeying to and from school.

3. At the senior high school level, when all times of the day were considered, dependence upon a school bus was in second place, dependence upon someone in the household was in third place, and dependence upon a neighbour or neighbour and parent was in fourth place as a means of journeying to and from school.

Question 1.1 How did the mode of journey vary by seasons?

1. The percentages for independent travel were highest in May and lowest in January.

2. The percentages for dependence upon someone in the household or upon a neighbour or upon a neighbour and parent were highest in January and lowest in May for elementary and junior high school pupils. At the high school level the dependence upon someone in the household or upon a neighbour or a parent was highest in January but varied little in October and May.

3. Dependence upon a school bus varied little in the three seasons studied.

Question 1.2 How did the mode of journey vary by time of day?

1. A higher percentage of pupils went home independently than arrived independently at all grade levels.

2. A very small percentage more of pupils journeyed to school independently in the morning than in the afternoon.

3. A higher percentage of pupils journeyed from school independently in the afternoon than in the morning.

4. A higher percentage of pupils were dependent upon someone in the household to journey to school than to journey from school at all grade levels.

5. A higher percentage of pupils were dependent upon someone in the household to journey to school in the morning than in the afternoon.

6. Not much variation was shown between the morning and the afternoon in the percentage of pupil personnel dependent upon someone in the household to journey from school.

7. A higher percentage of elementary and junior high school pupils were dependent upon a neighbour or a neighbour and parent to journey to school than to journey from school.

8. A higher percentage of senior high school pupils were dependent upon a neighbour or a neighbour and parent to journey to school than to journey from school in the morning. The reverse was true in the afternoon.

9. A higher percentage of elementary and junior high school pupils were dependent upon a neighbour or a neighbour and parent in the morning than in the afternoon.

10. There was very little difference in the percentage of pupils dependent upon a bus to journey to school in the morning and from school in the afternoon. Dependence was slightly higher in the afternoon.

Question 2. How was the location of the school related to the mode of journey and to the frequency of journey to and from school?

Question 2 was answered by answering three related questions.

Question 2.1 How did the mode of journey vary by schools?

1. The three public elementary schools in Area II had high percentages of pupils in January (16 to 47 per cent), had lower percentages in October (6 to 21 per cent), and had still lower percentages in May (1 to 7 per cent) of pupils dependent upon adults to journey to and from school.

2. The elementary school classes in the Camrose Junior High School and in the Sparling School, both on the periphery, had high percentages (80 to 99 per cent) of pupils travelling independently to and from school in all seasons.

3. The Fairground School, removed from a large residential area, had percentages of pupils varying from 3 to 63 per cent dependent upon someone to get to and from school, the percentage varying with the season and time of day.

4. The Saint Patrick's School, with the whole city as its attendance area, had a high percentage (16 to 51 per cent) of elementary school pupils dependent upon someone to journey to and from school.

5. The same school had from 9 to 11 per cent of its pupils travelling by bus. No other elementary school

had more than 2 per cent of the pupils using this mode of travel.

6. Of the four junior high schools the Sparling School followed by the Camrose Junior High School, both on the periphery, showed the highest percentages for independent journeying to school by pupils during the months of October and May.

7. All junior high schools had more pupils travelling to and from school independently in May than in October and January.

8. The Saint Patrick's School showed the most regularity of all junior high schools for dependence upon a neighbour or neighbour and parent to journey to school.

9. A higher percentage of Separate School District than of Public School District junior high school pupils journeyed to and from school by bus.

10. For independent journey to and from school the Camrose Lutheran College ranked highest among the three high schools. The Saint Patrick's School ranked second for independent journey to and from school.

11. The percentage of high school pupils depending upon someone to take them to and from school was higher at the Saint Patrick's School in October and January in

the morning than at the other two schools. The Camrose Lutheran College, with 73 per cent of its pupils living on the campus, had the lowest percentage of the three schools for dependence upon someone in the household or upon a neighbour or a parent to take pupils to and from school.

12. The Camrose High School had a higher percentage of its pupils arriving and departing by bus than either of the other high schools. The Saint Patrick's School made the least use of this form of arrival and departure from school.

13. The mode of journey varied at all schools by seasons and by time of day.

Question 2.2 How was the mode of journey related to distance from school?

1. A higher percentage of elementary school pupils journeyed to school independently in October and in May than lived within one-half mile of school. A lower percentage of elementary school pupils journeyed to school independently in January than lived within one-half mile of school.

2. A higher percentage of elementary school pupils lived in the rural area than used a bus to journey to and from school.

3. In January the percentage of elementary school pupils journeying independently to school was higher for all schools than the percentage of pupils living within one-quarter mile of the school.

4. The analysis suggested that when the distance to school was within one mile the home assumed the responsibility largely for the journey to school of elementary school pupil personnel.

5. Only one of the junior high schools had its percentages for independent journey to school by pupils compare with the percentage of pupils living no more than three-quarters mile from school.

6. The morning percentages for independent journey for junior high school pupils compared quite closely with the percentage of pupils living within three-quarters mile of the school except in January, and the afternoon percentages of independent journey compared quite closely with the percentage of pupils living within one mile of school.

7. There seemed to be a definite relationship for junior high school pupils between the distance beyond three-quarters mile, the season, and the dependence upon someone in the household to get to school.

8. The analysis suggested that when the distance to school was approximately one or one and one-quarter miles,

the responsibility for the journey to school of junior high school pupils seemed to be assumed by the home.

9. More junior high school pupils lived in the rural area than used a bus to travel to and from school.

10. At the senior high schools a comparison of the percentages suggested that when the distance to school exceeded three-quarters mile, many students depended upon others for transportation, especially to school in the morning and during the month of January.

11. The percentages of senior high school pupils living within one mile of school, and of those going from school independently in the afternoon, compared fairly closely.

12. The analysis suggested that when the distance to school was approximately one mile, the responsibility for the journey to school of senior high school pupils seemed to be assumed by the home.

13. A higher percentage of the high school pupils lived in the rural area than journeyed to and from school by bus.

Question 2.3 How were the percentages of the pupils who had their noon lunch at school related to the distance from school?

1. Generally, where 80 per cent or more of the

pupils lived within one-half mile of the school, there were not many elementary school pupils having noon lunch at school in October and May unless there were rural pupils in attendance.

2. The number of pupils having noon lunch at school was influenced by the season.

3. Some junior high school pupils appeared to have travelled up to one and one-quarter miles to go home for noon lunch.

4. Pupils at the Saint Patrick's School did not travel as far for noon lunch as the pupils in the Public School District.

5. The analysis suggested that rural pupils ate their noon lunch at school.

6. Percentages of pupils at the Camrose Senior High School and the Saint Patrick's Senior High School living more than one mile from school compared with percentages of pupils taking their noon lunch at school. Percentages at the Camrose Lutheran College of pupils living less than one-half mile from school, but not on campus, and pupils not having noon lunch at school corresponded.

Problems related to the distribution in space for adult school personnel, as well as for school pupil personnel were met by the journey to work. Chapter IX is an analysis of the journey to work by adult school personnel.

CHAPTER IX

THE JOURNEY TO SCHOOL BY ADULT PERSONNEL

1. INTRODUCTION

The journey to and from school or other place of school employment was made at least once daily by all adult school personnel. For many the journey was made twice daily. What was the relation between the ecology of schools in Camrose and the journey to school for adult personnel? To determine the relationship existing six questions were answered.

1. How did adult personnel journey to and from school?
2. How did the mode of journey vary by seasons?
3. How did the mode of journey vary by time of day?
4. How did the mode of journey vary by location of work?
5. How did the mode of journey vary by distance from work?
6. How did the frequency of the journey to work vary with the distance from work?

Data for answering the questions were obtained by a simple schedule which was distributed late in May, 1962, to all adult employees of the Camrose Public School District, the Camrose Separate School District, the Camrose School Division, the Camrose Lutheran College, and the Canadian Lutheran Bible Institute. While most of the adult employees completed the schedule themselves, some office employees completed it for a few of the employees within their school system. The sample includes 100 per cent of the adult employees in the school systems studied.

The schedule, as shown in the Appendix, contains nine modes of travel. These were grouped for analysis into three categories. All those who drove their own car, constituted the first category, while all those who walked or who lived on a campus made up the second category. The third category included all adult personnel who were driven by someone in their household, who rode with another employee, who rode in a taxi, or who listed their mode of travel under "other" on the schedule. There was one non-professional employee who rode a bicycle to and from work. The three categories were used to analyze the journey to and from school for the professional and for the non-professional adult school employees.

Analysis of the data is presented in tabular form for the categories of travel which were described, and for the percentage of adults who had their noon lunch at school.

2. ADULT PROFESSIONAL SCHOOL PERSONNEL

Data were obtained on the journey to and from work from 100 per cent of the adult professional school personnel. There were eighty-seven adults in October, eighty-nine adults in January, and eighty-six adults in May employed by the school systems in the mornings. In each of the three months studied there were eighty-six adults employed in the afternoons. Adults were asked to indicate their mode of travel most frequently used in October, in January, and in May to work in the morning, from work at noon, to work in the afternoon, and from work in the afternoon.

The data for the journey to and from work are summarized on four tables. Percentages of personnel who used each of the three categories of travel are shown on three tables. The percentage of adult personnel who ate their noon lunch at school is shown on one table. The summarized data provide answers to the six questions listed at the first of Chapter IX.

Mode of Journey to and from School

Tables 9.1, 9.2, and 9.3 show that there was a variation in the mode of travel to and from work. One mode of travel, when totals are considered, was used much more frequently than the others. The modal proportions of adult professional personnel who drove a car to and from work were 52 and 57 per cent, although the percentages ranged from 43 to 60 depending upon the time of day. The modal proportion of professional personnel who walked to and from work was 29 per cent, with the range being from 25 to 35 per cent. The remainder (3 to 17 per cent varying by time of day) of the employees depended upon someone to take them to and from work.

Variation by seasons. The percentages, for the three modes of travel studied, varied for the three seasons for which data were collected. The percentages for those who drove a car to and from work were highest in October for the four times daily. They were followed quite closely by percentages in January, and January percentages were followed very closely by percentages in May. The percentage for those who walked to and from work was lowest for the four times daily in October, while January percentages were equal to or slightly higher than October percentages

TABLE 9.1

PERCENTAGE OF ADULT PROFESSIONAL SCHOOL PERSONNEL WHO DROVE A CAR TO AND FROM WORK 1961-1962

Place of work	Direction of travel	Time of day	Percentage of adult personnel October	January	May
Central Cottage N = 1	To school	a.m.	100	100	100
	From school	a.m.	100	100	100
	To school	p.m.	100	100	100
	From school	p.m.	100	100	100
Fairground N = 3	To school	a.m.	100	100	100
	From school	a.m.	100	100	100
	To school	p.m.	100	100	100
	From school	p.m.	100	100	100
Hillside Cottage N = 3	To school	a.m.	33	33	0
	From school	a.m.	33	33	0
	To school	p.m.	33	33	0
	From school	p.m.	33	33	0
Camrose Junior High N = 11	To school	a.m.	64	55	64
	From school	a.m.	55	45	55
	To school	p.m.	64	55	64
	From school	p.m.	73	64	73
John W. Russell N = 9	To school	a.m.	44	56	44
	From school	a.m.	44	56	44
	To school	p.m.	44	56	44
	From school	p.m.	44	56	44
Sparling N = 6	To school	a.m.	67	33	33
	From school	a.m.	67	17	33
	To school	p.m.	67	17	33
	From school	p.m.	67	33	33
Camrose Senior High N = 13	To school	a.m.	46	38	46
	From school	a.m.	46	38	46
	To school	p.m.	46	38	46
	From school	p.m.	46	38	46

TABLE 9.1 (continued)

Place of work	Direction of travel	Time of day	Percentage of adult personnel		
			October	January	May
Saint	To school	a.m.	63	63	63
Patrick's	From school	a.m.	38	31	31
N = 16	To school	p.m.	44	38	38
	From school	p.m.	69	69	69
Sifton	To school	a.m.	78	78	67
N = 9	From school	a.m.	56	56	44
	To school	p.m.	56	56	44
	From school	p.m.	78	78	67
Camrose	To school	a.m.	36	36	36
Lutheran	From school	a.m.	36	36	36
College	To school	p.m.	36	36	36
N = 11	From school		36	36	36
C.L.B.I.	To school	a.m.	33	40	0
N = 3,5,2	From school	a.m.	33	40	0
N = 2	To school	p.m.	50	50	50
in p.m.	From school	p.m.	50	50	50
Public	To work	a.m.	100	100	100
S.D.	From work	a.m.	100	100	100
Office	To work	p.m.	100	100	100
N = 1	From work	p.m.	100	100	100
Divisional	To work	a.m.	100	100	100
School	From work	a.m.	100	100	100
Office	To work	p.m.	100	100	100
N = 1	From work	p.m.	100	100	100
Totals					
a.m.	To work	a.m.	57	54	52
Oct. N = 87	From work	a.m.	49	44	43
Jan. N = 89	To work	p.m.	52	47	46
May. N = 86	From work	p.m.	60	57	56
p.m. N = 86					

TABLE 9.2

PERCENTAGE OF ADULT PROFESSIONAL SCHOOL PERSONNEL WHO WALKED TO AND FROM WORK

1961-1962

Place of work	Direction of travel	Time of day	Percentage of adult personnel		
			October	January	May
Hillside	To school	a.m.	67	67	100
Cottage	From school	a.m.	67	67	100
N = 3	To school	p.m.	67	67	100
	From school	p.m.	67	67	100
Camrose	To school	a.m.	36	27	36
Junior	From school	a.m.	36	45	36
High	To school	p.m.	27	27	27
N = 11	From school	p.m.	27	36	27
John W.	To school	a.m.	33	22	33
Russell	From school	a.m.	22	22	22
N = 9	To school	p.m.	33	22	33
	From school	p.m.	33	22	33
Sparling	To school	a.m.	0	17	17
N = 6	From school	a.m.	0	17	17
	To school	p.m.	0	17	17
	From school	p.m.	0	17	17
Camrose	To school	a.m.	46	46	46
Senior	From school	a.m.	46	46	46
High	To school	p.m.	46	38	46
N = 13	From school	p.m.	46	54	46
Saint	To school	a.m.	19	25	25
Patrick's	From school	a.m.	19	25	25
N = 16	To school	p.m.	13	19	19
	From school	p.m.	13	19	19
Sifton	To school	a.m.	0	0	11
N = 9	From school	a.m.	0	0	11
	To school	p.m.	0	0	11
	From school	p.m.	22	22	33
Camrose	To school	a.m.	45	45	55
Lutheran	From school	a.m.	45	45	45
College	To school	p.m.	45	45	45
N = 11	From school	p.m.	55	45	55
C.L.B.I.	To school	a.m.	67	60	100
N = 3,5,2	From school	a.m.	67	60	100
N = 2	To school	p.m.	50	50	50
in p.m.	From school	p.m.	50	50	50
Totals	To school	a.m.	29	29	35
a.m.	From school	a.m.	28	31	31
Oct. N=87	To school	p.m.	26	25	29
Nov. N=89	From school	p.m.	29	31	34
May N=86					
p.m. N=86					

TABLE 9.3

PERCENTAGE OF ADULT PROFESSIONAL SCHOOL PERSONNEL DEPENDENT UPON SOMEONE TO JOURNEY TO AND FROM WORK 1961-1962

Place of work	Direction of travel	Time of day	Percentage of adult personnel		
			October	January	May
Camrose Junior High N = 11	To school	a.m.	0	18	0
	From school	a.m.	0	0	0
	To school	p.m.	0	9	0
	From school	p.m.	0	0	0
John W. Russell N = 9	To school	a.m.	22	22	22
	From school	a.m.	22	11	22
	To school	p.m.	11	11	11
	From school	p.m.	22	22	22
Sparling N = 6	To school	a.m.	33	50	50
	From school	a.m.	0	0	17
	To school	p.m.	0	0	17
	From school	p.m.	33	50	50
Camrose Senior High N = 13	To school	a.m.	8	15	8
	From school	a.m.	8	8	8
	To school	p.m.	8	15	8
	From school	p.m.	8	8	8
Saint Patrick's N = 16	To school	a.m.	19	13	13
	From school	a.m.	0	0	0
	To school	p.m.	0	0	0
	From school	p.m.	19	13	13
Sifton N = 9	To school	a.m.	22	22	22
	From school	a.m.	11	11	11
	To school	p.m.	11	11	11
	From school	p.m.	0	0.	0
Camrose Lutheran College N = 11	To school	a.m.	18	18	9
	From school	a.m.	0	0	0
	To school	p.m.	0	0	0
	From school	p.m.	9	18	9
Totals a.m. Oct. N=87 Jan. N=89 May N=86 p.m. N=86	To school	a.m.	14	17	13
	From school	a.m.	5	3	6
	To school	p.m.	3	6	5
	From school	p.m.	10	11	10

except for journeying to work in the afternoon. Percentages in May, for personnel who walked, were equal to or slightly higher than the percentages in January. The percentage of professional personnel dependent upon someone to take them to and from work, while slightly higher in January, varied little for the three seasons. The seasons, then, did not seem to influence, to any marked extent, the mode of travel used by professional personnel in their journey to and from work.

Variation by time of day. The mode of travel varied by the time of day. A higher percentage of the professional personnel drove to work in the morning and from work in the afternoon than travelled to and from work at noon. The inference is that 8 to 10 per cent remained at school at noon. However, 3 to 4 per cent more drove home in the afternoon than drove to work in the morning. The inference here is that they were called for or got access to their cars.

It is shown in Table 9.2 that the percentage of professional personnel who walked to and from work varied some with the time of day. In October the percentages were 29 per cent to work in the morning and from work in the afternoon, but they were slightly less at the noon period. In January a slightly higher percentage of the

professional personnel walked from work in the afternoon than walked to work in the morning. The reverse was true for the month of May. For each month the percentage of adults who walked from work at noon was slightly higher than the percentage who walked to work in the afternoon.

It is shown on Table 9.3 that a higher percentage of adult personnel depended upon someone to take them to work in the morning than depended upon someone to take them from work in the afternoon. Less than half of those who depended upon someone to take them to work in the morning depended upon someone to take them from work at noon or to work in the afternoon. While Table 9.3 does not show it, this group made up some of the adult personnel who ate their noon lunch at school. During October and May the percentage dependent upon someone to take them from work in the morning was greater than the percentage dependent upon someone to take them to work in the afternoon, but the reverse was true for the month of January.

Variation by location of work. The mode of journey to and from work varied by schools or places of work. To show the variation the places of work were grouped

according to their location. There were seven schools located on or near the periphery of the city--the Fairground School, the Camrose Senior High School, the Saint Patrick's School, the Sifton School, and the Camrose Lutheran College. There were four schools--the Central Cottage School, the Hillside Cottage School, the John W. Russell School, and the Canadian Lutheran Bible Institute--and two school offices located in or near the central business area of the city. These two groups of employment locations were studied by reference to Tables 9.1, 9.2, and 9.3.

One cannot conclude that the location of the school on the periphery resulted in professional personnel driving a car to work since the percentages varied with the school sites, from 36 per cent to 100 per cent, in each of the three months studied. Neither can one conclude that professional personnel drove a car to work when the school or office was centrally located in the central business area. In this second group of schools or office sites the percentages of personnel driving to work ranged from 33 to 100 per cent.

The percentage of professional personnel who walked to work is shown on Table 9.2. Schools or offices in the city not listed on the table (Central Cottage and

Fairground Schools, and Public School District and Divisional School Offices) had no professional personnel who walked to or from work. The percentage of personnel who walked to work at a site on the periphery ranged from 0 per cent at the Fairground School to 45 to 55 per cent at the Camrose Senior High School and the Camrose Lutheran College. The percentage that walked to centrally located sites ranged from 0 per cent at the Central Cottage School and the school district offices to 100 per cent at the Hillside Cottage School and the Canadian Lutheran Bible Institute. It appears that the location of the school site on the periphery or in a central location was not correlated with personnel walking to work.

The percentage of personnel dependent upon someone to journey to and from work is shown on Table 9.3. There were six sites omitted from the table that had no personnel using this means of travel. Only one centrally located school, the John W. Russell School, had teachers dependent upon someone to journey to and from school. There were personnel employed on six sites on the periphery that used this mode of travel with a range in percentage from 0 to 50. Percentages were highest to school in the morning and from school in the afternoon. The analysis suggests that persons employed on the periphery depended more upon someone to journey to and from

work than did persons employed on sites centrally located in the city.

Variation by distance from work. To relate the mode of journey to and from school to the distance from school, percentages on Table 7.1, page 232, are related to the percentages to school in the morning on Tables 9.1, 9.2, and 9.3. There were 31 per cent of the professional personnel, as shown on Table 7.1, who lived on campuses or within one-quarter mile of their work. In October 29 per cent, in January 29 per cent, and in May 35 per cent walked to work in the morning. All others drove their own car or were dependent upon someone to take them to or from work. The comparison of the tables indicates that at seven of the schools and at the two school offices the percentage of professional personnel that walked to work in the morning compares closely with the percentage of professional personnel that lived within one-quarter mile of work. A higher percentage of professional personnel at the private schools walked a greater distance to work than did the personnel in the other school systems

Variation by frequency of journey. Persons eating their noon lunch at school made the journey to and from school once daily. Percentages on Table 7.1, page 232,

are compared with percentages on Table 9.4 to determine whether any relationship existed between distance from work and the percentages of professional personnel who ate their noon lunch at their place of work. In the city there were 23 per cent of the professional personnel, as shown on Table 7.1, who lived on a campus or more than three-quarters mile from work, and there were 14 per cent who lived on a campus or more than one mile from work. It is shown on Table 9.4 that 18 per cent in October, 21 per cent in January, and 19 per cent in May ate their noon lunch at school. These percentages suggest that there was some relationship between the distance from school and whether a teacher ate his noon lunch at school. The distance which affected a teacher's decision to eat noon lunch at school seemed to be between three-quarters mile and one mile. An examination of percentages for each school substantiated this conclusion for most schools. It appeared that teachers living on a campus or over three-quarters or one mile from school made the journey to school once daily generally.

Summary

The journey to work was analyzed according to three categories--those who drove a car, those who walked, and

TABLE 9.4

PERCENTAGE OF ADULT PROFESSIONAL SCHOOL PERSONNEL WHO ATE NOON LUNCH AT SCHOOL

1961-1962

Name of school	Percentage of adult personnel October	 January	 May
Camrose Junior High N = 11	9	9	9
John W. Russell N = 9	11	11	11
Sparling N = 6	33	67	33
Camrose Senior High N = 13		8	
Saint Patrick's N = 16	44	44	44
Sifton N = 9	33	33	33
Camrose Lutheran College N = 11	18	18	18
Totals for the city October N = 87 January N = 89 May N = 86	18	21	19

Note: One member of the adult professional staff at the Canadian Lutheran Bible Institute lived on the campus.

those who were dependent upon someone. From 52 to 60 per cent drove a car, from 29 to 35 per cent walked, and the remainder (10 to 17 per cent) depended upon someone to take them to and from work.

The seasons did not have a marked influence on the mode of journey to and from work.

The mode of journey varied with the time of day. More professional personnel drove a car to work in the morning and from work in the afternoon than at the noon recess. More drove to work in the afternoon than in the morning, and more drove from work in the afternoon than drove to work in the morning. More professional personnel walked to work in the morning than in the afternoon. More professional personnel depended upon someone to take them to work in the morning than at any other time of day. Few persons depended upon anyone at the noon period.

No relationship between the location of the place of work on the periphery or in the central part of the city and the mode of journey to work by driving a car or by walking was evident. However, persons employed on the periphery depended more on someone to journey to and from work than persons employed in the central part of the city.

The mode of journey varied by distance from work. A comparison of percentages suggests the hypothesis that those living on campus or within one-quarter mile of their place of employment walked to work. Professional personnel at the private schools walked greater distances than professional personnel at the other schools.

The percentage of professional personnel who lived on campus or who lived three-quarters or one mile from school and the percentage of those who ate their noon lunch at their place of employment are closely related.

3. ADULT NON-PROFESSIONAL SCHOOL PERSONNEL

The journey-to-work schedule was completed and returned for thirty-eight persons in October, for thirty-nine persons in January, and for thirty-nine persons in May or for 100 per cent of the non-professional school personnel in the school systems studied. Personnel were asked to indicate their mode of travel most frequently used in October, in January, and in May to work in the morning, from work in the morning, to work in the afternoon, and from work in the afternoon.

The analysis of data obtained from the schedule is summarized on four tables. The percentage of personnel who drove a car to and from work is shown on Table 9.5,

the percentage of personnel who walked to and from work is shown on Table 9.6, and the percentage of personnel who were dependent upon someone to journey to and from work is shown on Table 9.7. The percentage of non-professional personnel who ate their noon lunch at their place of work is indicated on Table 9.8. When the percentage for a place of employment was 0, the site was omitted from the table. The summarized data provide answers to the six questions listed at the first of the chapter.

Mode of Journey to and from Work

It is shown on Tables 9.5, 9.6, and 9.7 that there was a variation in the mode of journey to and from work. When the totals were considered for twelve sites where non-professional personnel were employed, the journey to and from work by car at seven sites and by walking at nine sites represented the means of travel for about 95 per cent of the non-professional school personnel. The percentage of those who journeyed by car was (46 to 49 per cent) approximately the same as the percentage of those who walked (44 to 49 per cent) to and from work. One employee travelled on a bicycle during the month of May, but this was not shown on the tables.

TABLE 9.5
PERCENTAGE OF ADULT NON-PROFESSIONAL SCHOOL PERSONNEL WHO DROVE A CAR TO AND FROM WORK
1961-1962

Place of work	Direction of travel	Time of day	Percentage of adult personnel October	January	May
John W. Russell N = 1	To school	a.m.	100	100	100
	From school	a.m.	100	100	100
	To school	p.m.	100	100	100
	From school	p.m.	100	100	100
Sparling N = 1	To school	a.m.	100	100	100
	From school	a.m.	100	100	100
	To school	p.m.	100	100	100
	From school	p.m.	100	100	100
Camrose Senior High N = 2	To school	a.m.	100	100	100
	From school	a.m.	100	100	100
	To school	p.m.	100	100	100
	From school	p.m.	100	100	100
Sifton N = 8	To work	a.m.	88	88	88
	From work	a.m.	88	88	88
	To work	p.m.	88	88	88
	From work	p.m.	88	88	88
Camrose Lutheran College N = 8	To school	a.m.	25	25	13
	From school	a.m.	25	25	13
	To school	p.m.	25	25	13
	From school	p.m.	25	25	13
Public S.D. Office N = 1	To work	a.m.	0	100	100
	From work	a.m.	0	100	100
	To work	p.m.	0	100	100
	From work	p.m.	0	100	100
School Division Office N = 6	To work	a.m.	83	83	83
	From work	a.m.	83	83	83
	To work	p.m.	83	83	83
	From work	p.m.	83	83	83
Totals	To work	a.m.	47	49	46
Oct. N = 38	From work	a.m.	47	49	46
Jan. N = 39	To work	p.m.	47	49	46
May N = 39	From work	p.m.	47	49	46

Note: One employee at the Camrose Lutheran College rode a bicycle to work during the month of May.

TABLE 9.6
PERCENTAGE OF ADULT NON-PROFESSIONAL SCHOOL PERSONNEL WHO WALKED TO AND FROM WORK
1961-1962

Place of work	Direction of travel	Time of day	Percentage of adult personnel		
			October	January	May
Fairground N = 1	To school	a.m.	100	100	100
	From school	a.m.	100	100	100
	To school	p.m.	100	100	100
	From school	p.m.	100	100	100
Camrose Junior High N = 2	To school	a.m.	100	100	100
	From school	a.m.	100	100	100
	To school	p.m.	100	100	100
	From school	p.m.	100	100	100
Saint Patrick's N = 2	To school	a.m.	50	50	50
	From school	a.m.	50	50	50
	To school	p.m.	50	50	50
	From school	p.m.	50	50	50
Sifton N = 8	To work	a.m.	13	13	13
	From work	a.m.	13	13	13
	To work	p.m.	13	13	13
	From work	p.m.	13	13	13
Camrose Lutheran College N = 8	To work	a.m.	63	75	63
	From work	a.m.	63	75	63
	To work	p.m.	63	63	63
	From work	p.m.	63	63	63
C.L.B.I N = 5,6,6	To work	a.m.	100	100	100
	From work	a.m.	100	100	100
	To work	p.m.	100	100	100
	From work	p.m.	100	100	100
Public S.D. Office N = 1	To work	a.m.	100	0	0
	From work	a.m.	100	0	0
	To work	p.m.	100	0	0
	From work	p.m.	100	0	0
School Division Office N = 6	To work	a.m.	17	17	17
	From work	a.m.	0	0	0
	To work	p.m.	17	17	17
	From work	p.m.	17	17	17
Separate S.D. Office N = 1	To work	a.m.	100	100	100
	From work	a.m.	100	100	100
	To work	p.m.	100	100	100
	From work	p.m.	100	100	100
Totals Oct. N=38 Jan. N=39 May N=39	To work	a.m.	47	49	46
	From work	a.m.	45	46	44
	To work	p.m.	47	46	46
	From work	p.m.	47	46	46

TABLE 9.7

PERCENTAGE OF ADULT NON-PROFESSIONAL SCHOOL PERSONNEL DEPENDENT UPON SOMEONE TO JOURNEY TO AND FROM WORK

1961-1962

Place of work	Direction of travel	Time of day	Percentage of adult personnel October	January	May
Saint Patrick's N = 2	To school	a.m.	50	50	50
	From school	a.m.	0	0	0
	To school	p.m.	0	0	0
	From school	p.m.	50	50	50
Camrose Lutheran College N = 8	To work	a.m.	13	0	13
	From work	a.m.	13	0	13
	To work	p.m.	13	13	13
	From work	p.m.	13	13	13
School Division Office N = 6	To work	a.m.	0	0	0
	From work	a.m.	17	17	17
	To work	p.m.	0	0	0
	From work	p.m.	0	0	0
Totals Oct. N = 38 Jan. N = 39 May N = 39	To work	a.m.	5	3	5
	From work	a.m.	5	3	5
	To work	p.m.	3	3	3
	From work	p.m.	5	5	5

Variation by seasons. The tables show that the mode of journey varied slightly by seasons. There were 49 per cent in January who drove a car to and from work as compared with 47 per cent in October and 46 per cent in May. The percentages for those who walked to and from work was the same as for those who journeyed to work in the morning by car, but some variation occurred throughout the day. The percentage of personnel dependent upon others to journey to and from work (3 to 5 per cent) was lower in January than in October and May. The mode of travel never varied by more than 4 per cent in the seasons studied.

Variation by time of day. The mode of travel varied slightly throughout the day. For non-professional school personnel who journeyed by car, no variation occurred throughout the day. For those who walked to and from work, there were 2 per cent, 3 per cent, and 2 per cent less for the three months studied who walked from work in the morning than there were who walked to work in the morning. In January afternoon percentages were 3 per cent lower than the morning percentage. The variation in percentage of personnel dependent upon someone to take them to and from work, as shown on Table 9.7, was never more

than 2 per cent. It appears that for non-professional personnel the mode of travel to and from school varied only slightly throughout the day.

Variation by location of work. To answer Question 4 the schools were classified according to their location. One group included all sites located on or near the periphery of the city, and the second group included all sites centrally located in the city. There were eight sites located on or near the periphery of the city. They included the Fairground School, the Camrose Junior High School, the Sparling School, the Camrose Senior High School, the Saint Patrick's School, the Sifton School, the Camrose Lutheran College, and the Separate School District office. The John W. Russell School, the Canadian Lutheran Bible Institute, the Camrose Public School District office, and the Camrose School Division office were on centrally located sites. The data were examined for evidence of any patterns associating the location of a site and the mode of travel used by the non-professional personnel.

The percentage of non-professional school personnel who drove a car to work is shown on Table 9.5. Out of the eight sites located on the periphery there were two sites where 100 per cent of the personnel drove a car to work,

two sites where 25 to 88 per cent of the employees drove to work, and four sites where none drove to work. Among the centrally located sites there was one where all personnel drove to work, two where some drove, and one where none drove to work. While no marked pattern for mode of travel seemed to exist, the analysis suggests that there was a somewhat greater dependence upon a car to journey to and from work for those employed on sites in the central area than for those employed on sites on the periphery.

The percentage of non-professional adult school personnel who walked to and from work varied from 0 to 100 per cent with the two groups of sites studied. Out of the eight sites located on the periphery, 100 per cent of the personnel at three sites walked to work, and no personnel walked at two sites. For the three other sites the percentages varied from 13 to 75. For sites centrally located one site had no personnel who walked to work, one site had a change from 100 per cent to 0 per cent who walked to work occur during the year, and one site had 17 per cent of its non-professional personnel who walked to work. While no pattern relating the location of the site with mode of travel is at all marked, there does seem to be some indication that persons employed on the periphery were more likely to walk to work than those employed in the central part of the city.

Dependence upon someone to journey to and from work, as indicated by Table 9.7, was slight. Two of the three sites where some employees were dependent upon someone to journey to and from work were located on the periphery. However, no dependence was indicated at the other six sites located on the periphery or the other three sites centrally located.

The examination of Tables 9.5, 9.6, and 9.7 indicates no marked pattern or relationship between the mode of travel to and from work and the location of the site. There was 100 per cent variation between some of the schools within the two classifications of sites. There was a tendency, however, for personnel employed on centrally located sites to drive to work, and for those employed on peripheral sites to walk or to depend upon others to journey to work.

Variation by distance from work. To determine the relationship of the distance from school and the mode of journey to and from school, the percentages on Table 7.4, page 239, are compared with the percentages on Tables 9.5, 9.6, and 9.7. It is shown on Table 7.4 that 49 per cent of the non-professional adult personnel lived on a campus or within one-quarter mile of their place of work. Table 9.6 shows that 47 per cent in October, 49 per cent in January, and 46 per cent in

May walked to work in the morning. It appears that the percentage of non-professional personnel who walked to work was very nearly the same as the percentage of non-professional personnel who lived on campus or within one-quarter mile of their place of work.

A comparison of Table 7.4 and Table 9.6 for each of the sites where non-professional personnel were employed indicates further the relationship between distance from work and mode of travel. While it was not true for all the sites where non-professional adult school personnel were employed, there is a noticeable similarity between the percentage who lived within one-quarter mile of their work and the percentage who walked to work for four of the schools and for the school offices. A higher percentage of the Camrose Lutheran College personnel walked to work than lived within one-quarter mile of school or on the school campus.

Variation by frequency of journey. It was assumed that persons eating their noon lunch at their place of work made the journey to and from work once daily. It is shown on Table 9.8 that non-professional personnel employed at three sites only ate noon lunch at their place of work. Two of these sites were residential schools. The distance from their place of work did not seem to be great enough

to keep most non-professional personnel at their place of employment during the noon recess period. Hence the frequency of the journey to work did not appear to be reduced by the distance from work.

TABLE 9.8

PERCENTAGE OF ADULT NON-PROFESSIONAL SCHOOL PERSONNEL
WHO ATE NOON LUNCH AT SCHOOL
1961-1962

Name of school	Percentage of adult personnel October	 January	 May
Saint Patrick's School N = 2	50	50	50
Camrose Lutheran College N = 8	38	38	38
C.L.B.I N = 5,6,6	100	83	83
Totals for the city October N = 38 January N = 39 May N = 39	24	23	23

Summary

The mode of journey to work for non-professional personnel was analyzed in three categories--those who drove a car, those who walked, and those who were dependent upon someone to journey to and from work. Only slightly more of these employees drove a car than walked to work, and the two

modes of journeying to work were used by about 95 per cent of the personnel. One employee rode a bicycle.

The mode of journey varied by no more than 3 per cent in the three seasons.

The mode of journey varied little with the time of day. For those who drove a car there was no variation. For those who walked and for those who depended upon someone the percentages varied by no more than 3 per cent.

The mode of journey varied somewhat with the location of employment. There was greater dependence upon a car by those employed in the central area of the city than for those employed on the periphery. Persons employed on the periphery tended to walk to work more than those employed down town. Two of the three sites where employees depended upon someone to journey to work were located on the periphery.

There seemed to be a relation between walking to work and living on campus or within one-quarter mile of the place of employment. Non-professional personnel at the private schools walked greater distances than non-professional employed in the other school systems.

Non-professional personnel made the journey to work twice daily. Distance from their place of work did not seem great enough to keep them at their place of employment during the noon recess.

4. CHAPTER SUMMARY

Data were analyzed to answer six questions with reference to two classifications of personnel. The answers to the questions are summarized briefly.

Question 1. How did the adult personnel journey to and from school?

1. Slightly more than half of the adult professional personnel (52 to 60 per cent) drove a car to and from work. Approximately one-third (29 to 35 per cent) walked to and from work. The remainder depended upon someone to take them to and from work.

2. The percentage of non-professional personnel who drove to work was only slightly higher than those who walked to work. Together the two modes of travel included about 95 per cent of the personnel. One employee rode a bicycle.

Question 2. How did the mode of journey vary by seasons?

1. The seasons did not seem to influence to any marked extent the mode of journey used by professional personnel in their journey to and from work.

2. The mode of journey varied by no more than 3 per cent in the seasons studied for non-professional personnel.

Question 3. How did the mode of journey vary by time of day?

1. A higher percentage of professional personnel drove to work in the morning and from work in the afternoon than drove from work in the morning and to work in the afternoon. There were 3 per cent more who drove to work in the afternoon than there were who drove from work in the morning. A higher percentage of professional personnel drove from work in the afternoon than drove to work in the morning.

2. A slightly higher percentage of professional personnel walked from work in the morning than walked to work in the afternoon. The percentage of professional personnel walking to work in the morning was about the same as the percentage of professional personnel walking from work in the afternoon.

3. More professional personnel were dependent upon someone to take them to work in the morning than at any other time of day. Percentages were lower at the noon period and higher for the journey from work in the afternoon, but they were not as high as for the journey to work in the morning.

4. For the non-professional personnel no variation occurred by time of day for those who drove a car.

5. For those non-professional personnel who walked to and from work or who depended upon someone to journey to and from work, the percentages did not vary by more than 3 per cent at any time.

Question 4. How did the mode of journey vary by location of work?

1. The analysis showed no pattern of relationship between location of a place of work on the periphery or in the central part of the city and professional personnel driving a car or walking to work. There was some evidence that professional personnel employed on the periphery depended more upon someone to journey to and from work than professional personnel employed on centrally located sites.

2. No marked pattern for mode of journey existed for non-professional personnel to journey to and from work on sites on the periphery or on sites centrally located. There was somewhat greater dependence upon a car for those employed in the central area than for those employed on the periphery. Persons employed on the periphery tended to walk to work somewhat more than those employed in the central part of the city. Dependence upon someone to journey to and from work was slight.

Two of the three sites, where it occurred, were on the periphery.

Question 5. How did the mode of journey vary by distance from work?

1. Percentages for professional personnel and for non-professional personnel who lived on campus or within one-quarter mile of their work and percentages for professional personnel and non-professional who walked to work compared closely. A higher percentage of professional personnel and non-professional personnel at the private schools walked a greater distance to work than did the personnel in the other school systems.

Question 6. How did the frequency of the journey to work compare with the distance from work?

1. The personnel eating noon lunch at school made the journey to and from work once daily. Percentages for professional personnel who ate lunch at school compared with percentages of professional personnel who lived on a campus or over three-quarters or one mile from school.

2. The distance from their place of work did not seem to be great enough to keep most non-professional personnel at their place of employment during the noon

recess. Some non-professional employees at two private residential schools and at the Saint Patrick's School ate their noon lunch at school. Other non-professional employees were required to make the journey to and from work twice daily.

The distribution of school personnel and the ways the problems created by distribution in space were solved by the journey to school have been analyzed in this and the preceding three chapters. Next, attention is directed to the ecological processes evident from this analysis.

CHAPTER X

ECOLOGICAL PROCESSES IN THE DISTRIBUTION OF SCHOOL PERSONNEL

1. INTRODUCTION

The analysis completed in Chapters VI, VII, VIII, and IX dealt with the distribution and the journey to work of school personnel in Camrose in the spring of 1962. It is claimed by the researcher that the distribution of school personnel shows ecological processes at work, and that the journey to work shows adaptations made to overcome problems of distribution in space in relation to school sites. Chapter X is an attempt to summarize in ecological terms the results of the detailed analysis of school personnel in Part III.

All the school systems are considered together in the discussion of the ecological processes. These processes are specialized forms of the competitive process—concentration, centralization, sub-centralization, segregation, invasion, and succession.

2. EVIDENT ECOLOGICAL PROCESSES

Concentration

Concentration of school personnel was evident in

two forms. School personnel were concentrated for educational purposes at school, administrative, and maintenance sites. Residences of school personnel were concentrated in the urban centre and in the surrounding rural district. These two forms of concentration are considered in the next paragraphs.

Pupil personnel were concentrated for educational purposes in the schools in Camrose. Pupil personnel who were concentrated residentially in the rural area, attended the schools in the Camrose Public School District, the Camrose Separate School District, and the Camrose School Division. Pupil personnel who were concentrated residentially in the urban area attended the schools of the Camrose Public School District, the school in the Camrose Separate School District, and the three private schools.

Adult school personnel were concentrated for employment largely in the urban area. Professional and non-professional employees of the Camrose Public School District, the Camrose Separate School District, the Camrose School Division, and the three private schools, with the exception of the bus drivers, worked in the city.

The analysis of the distribution of school pupil personnel shows certain concentration of residences in relation to schools. At the elementary school level,

with seven sites, pupils' residences tended to be most concentrated in Zone 1 at all but one school. At the junior high school level pupils' residences tended to be concentrated in Zone 1 or Zones 1 and 2 largely. At the senior high school level pupils' residences were concentrated in Zone 1 at each of the schools, in Zones 1 and 2 at one school, and in Zones 1 and 4 at one school. At the Bible institutes pupils were concentrated on the school campuses.

Adult professional and non-professional personnel residentially were concentrated largely within the first three zones surrounding the schools. Concentration in these zones was greatest in Zone 1 and least in Zone 3 when all adult personnel were considered.

There was concentration of residences of pupil personnel by city areas. In the Public School District the greatest concentration of pupils at all levels was in Areas I, II, and IV. In the Separate School District the greatest concentration of pupils at all levels was in Areas I, II, and III. Combined data for the two school districts indicate the highest concentration of pupil personnel in Areas I, II, and IV. At the Camrose Lutheran College most of the pupils were residentially concentrated on the school campus in Area IV. Pupils at the Bible institutes were residentially concentrated in Areas II and V.

The residences of the professional school personnel show some concentration by city areas. In the Public School District professional personnel were concentrated in Areas II, III, IV, and V largely. The greatest concentration of professional personnel in the employ of the Camrose School Division was in Areas II and IV. For the Separate School District concentration of professional personnel was in Areas I and V largely. Private school professional personnel were concentrated in Areas II, IV, and V largely. When the distribution of all professional personnel was considered the greatest concentration was found in Areas II, IV, and V.

Residences of non-professional adult school personnel were concentrated slightly in Areas II, III, and IV. However, with non-professional personnel there is considerable evidence of dispersion rather than concentration. Concentration was most marked at the private schools where the non-professional personnel were concentrated in Areas II and IV.

Centralization

While school personnel were concentrated in the rural and urban area, they were not centralized in 1962 at one place and in one system. Each school system was centralized for some administrative purposes at its administrative office. For the Camrose Public School

District, the Camrose Separate School District, and the Camrose School Division the administrative office was apart from a school site. The pupil personnel of five of the six school systems were centralized at one site within the school system. (Pupils in the Camrose Public School District were not centralized at one site.) All professional personnel in the Camrose Separate School District and in each of the three private schools were centralized at one site in each school system. Non-professional personnel at the three private schools were centralized at the schools concerned.

Sub-centralization

Sub-centralization of pupil personnel occurred at different school sites and by grade levels at school sites. In the Public School District pupils were sub-centralized at seven sites. Pupils were further sub-centralized according to elementary, junior high, and senior high school and junior college pupil personnel. In some cases this sub-centralization occurred on one site only. Within the elementary, junior high, and senior high school classifications pupils were again sub-centralized by grades.

Sub-centralization occurred among professional school personnel. In the Public School District

professional personnel were sub-centralized at seven school sites and at the administrative office. In the Camrose School Division professional personnel were sub-centralized at the administrative office and at the Sifton School.

Non-professional personnel were sub-centralized in three school systems. In the Public School District non-professional personnel were employed at seven sites and at the administrative office. The Camrose School Division had non-professional personnel employed in the administrative office, the maintenance garage, Sifton School, and on the bus routes as bus drivers. The secretary of the Separate School District had an office in his home.

Segregation

Segregation of school personnel seemed to be spatial and social. Both spatial and social segregation seemed to be associated with occupational segregation, residential segregation, and the journey-to-work segregation.

Occupational segregation. School personnel were segregated during the day by their attendance or employment in different school systems--the Camrose Public School District, the Camrose Separate School District,

the Camrose School Division, the Camrose Lutheran College, the Canadian Lutheran Bible Institute, and the Alberta Bible Institute. By this spatial segregation personnel were socially segregated from personnel in other school systems during hours of school or work.

School personnel were spatially segregated within school systems. In the Camrose School District personnel were segregated on eight sites, in the Camrose Separate School District on two sites, and in the Camrose School Division on two sites and by bus routes.

Within the school and school systems school personnel were segregated by their pupil or adult status. Each of these was subdivided. Pupils were segregated by school sites, and by elementary, junior high, or senior high school, junior college, and Bible school status. Further segregation was by grade levels. Adult personnel were segregated by professional or non-professional status.

Residential segregation. Residential segregation seemed related to concentration and dispersion of residences of school personnel in zones around schools and to city areas determined by traffic arteries and natural boundaries. In the discussion of residential segregation pupil and adult personnel are considered separately.

Since concentration of pupil personnel occurred

in certain zones, segregation of some pupil personnel seemed related to the same space. At the elementary school level pupils were concentrated in Zone 1 at six of the seven schools, in Zone 2 at one school only, and in Zone 3 at two schools only. Thus, at elementary schools the space within one-quarter mile of the school seemed to be the main area of residential segregation for pupil personnel of the school.

At the junior high school level segregation of some pupils' residences occurred. Zone 1 at all four schools, Zones 1 and 2 at two schools, and Zones 1 and 3 at one school were the areas of pupil concentration. The space for residential segregation for junior high school pupil personnel was within one-quarter, one-half, or three-quarters mile of the school depending upon the school.

At the senior high school level some segregation of pupil personnels' residences occurred. Segregation associated with concentration occurred in Zone 1 at each school, in Zones 1 and 2 at one school, and in Zones 1 and 4 at one school. Residential segregation associated with concentration of pupils' residences was very marked at the residential high school. At another high school segregation of most pupils seemed to be within one-half

mile of the school. At the third school the two areas of pupil concentration indicated two areas of pupil segregation, one in Zone 1 and one in Zone 4.

Private school pupils attending the Bible institutes were the most markedly segregated of all the pupil personnel. In each case almost 100 per cent of the pupils lived within the school residences.

Pupil personnel were segregated somewhat by city areas. In the Public School District Areas I, II, and IV had the highest concentration of school pupil personnel. Areas I, II, and III had the highest concentration of school pupils of the Separate School District. This concentration suggests residential segregation.

Pupil personnel at the Sifton School were segregated from other pupils by their rural place of residence.

Adult personnel indicated some residential segregation by concentration in zones around the schools. There were approximately 80 per cent of the professional and non-professional personnel concentrated within three-quarters mile of their work. In the Separate School District there were two areas of concentration for professional personnel, one within one-quarter mile and one from one to one and one-quarter miles from the school. Both professional and non-professional personnel of the

private schools were concentrated near the school.

Adult personnel seemed segregated somewhat by city areas. There were 58 per cent of the professional personnel concentrated in Areas IV and V, and 64 per cent of the non-professional personnel concentrated in Areas II, III, and IV. The Separate School District with one area of concentration in Area I and another in Area V, the private schools with concentration in Areas II, IV, and V, and the Public School District with concentration in Areas IV and V show the greatest segregation of professional personnel. Except for non-professional personnel in the private schools and some in the Camrose School Division, there seemed to be a tendency for non-professional personnel within school systems to be scattered but not segregated.

Journey-to-work segregation. It is assumed that social segregation was a consequence of several factors--the various school systems, the status of personnel, the grade level, residential segregation, and the mode and frequency of the journey to school. The mode and frequency of journey to school and social segregation is the concern of the next paragraph.

It is assumed that different modes of the journey to work of pupil and adult personnel influenced social

segregation. Pupils travelling on one bus route were segregated from those travelling on other bus routes. Personnel who walked to school were segregated from those who journeyed by other means. Dependence upon someone in the household only promoted a different social situation to that for pupils who were dependent upon a parent and neighbour to journey to school. Adult personnel who travelled alone were segregated from those who travelled together.

Social segregation was influenced by the frequency of the journey to school. Pupils and adults who journeyed to and from school once daily and who ate lunch at school had social contact during the noon recess from which those going home for noon lunch were excluded. On the other hand, those staying at school for noon lunch were excluded from certain social contacts with pupils going home for noon lunch.

Invasion

There seemed to be ecological invasion with more than one invader. The co-terminous boundaries of the Public and Separate School Districts meant that school personnel from each district lived in the same geographic area. In 1962 the distribution of the school personnel did not suggest that invasion was becoming complete or that succession would take place in any of the urban

community to either of the school districts. Spatial integration, rather than invasion followed by succession, appeared to be the process. It may be inferred that there was some invasion involved as separate school patrons moved close to their school.

The Camrose School Division had invaded the urban area. The school site and the office site of the Camrose School Division were within the boundaries of the City of Camrose. Each school day the pupil personnel of the Camrose School Division invaded the geographic area of the Camrose School Districts. Some rural adult personnel invaded the city for employment, and some urban adult personnel of the school invaded the rural area as bus drivers for their employment.

The private schools invaded the attendance area of the Camrose Public School District and the Camrose Separate School District. However, succession seemed to be apparent at the school sites only.

Succession

There seemed to be little evidence of succession of a part of the urban area to a school system other than on the school sites. While there was concentration around some school sites of pupil personnel attending the schools, pupil personnel attending other schools lived in the same

geographic areas. Similarly, no space in the city other than school sites and other locations of school employment seemed to indicate succession to adult school personnel.

3. SUMMARY

According to this interpretation of the analysis in Part III, it appeared that ecological processes of concentration, centralization, sub-centralization, segregation, and invasion were evident in the distribution of pupil personnel and of adult personnel in the school systems in the City of Camrose. In the competition for space school personnel had adapted to their location in relation to school sites. This adaptation was evident in the mode of the journey to school and in frequency of the journey to school.

What will happen among the school systems and within the school systems, as these ecological processes continue, remains to be seen. While there was evidence of much concentration, centralization, and some segregation and invasion, it seemed unlikely that any areas of the city, outside of school sites, would be transformed completely through succession. Within areas and within schools the ecological processes of competition

contributed to the unique characteristics of both but within limits. These limits appeared to be determined by other kinds of forces and processes which tended to integrate the community as a whole and schools and school systems as wholes. Nevertheless, this ecological interpretation suggested that there were some ecological limits to the human behavior of school personnel in Camrose which needed to be considered in understanding the functioning of the community and its schools.

In addition to adult and pupil personnel who were at schools during mornings and afternoons for five days weekly, other community personnel made use of school property. Attention is directed in Part IV to the ecology of schools as a factor in school use by the community.

PART IV. THE ECOLOGY OF THE SCHOOL AS A FACTOR IN SCHOOL AND COMMUNITY RELATIONS

CHAPTER XI

COMMUNITY USE OF SCHOOL PROPERTY

1. INTRODUCTION

Part IV of this study deals with the ecology of the school as a factor in school and community relations in the City of Camrose in 1961-1962. Chapter XI deals specifically with the community use of school property.

Data were acquired to determine for what purposes school property was used by the adult community. The purposes for which school property were used were classified as meetings, adult education, concerts, sports, civic and miscellaneous. The data were analyzed to answer the following question:

1. Did the location of the school influence its use by the community for a meeting place, for adult education, for concerts, for sports, for civic purposes, and for miscellaneous purposes?

To answer the above question data were collected by the interview technique, by a simple questionnaire, and by attendance sheets distributed at some meetings. Those

interviewed were the principals or vice-principals of the Public School District, the Separate School District, and the Sifton School; the secretary of the Public School District; the president of the Camrose Lutheran College; the dean of the Canadian Lutheran Bible Institute; and the dean of the Alberta Bible Institute. A simple questionnaire, as shown in the Appendix, was mailed to 100 per cent of the adult students residing within the city who were registered in one or more of typewriting, shorthand, bookkeeping, an Evening Credit Course, and a choral workshop. Addresses for those taking commercial courses were obtained at the office of the Camrose School District, for those taking the Evening Credit Course from the office of the Registrar, University of Alberta, and for those taking the choral workshop from the office of the Department of Extension, University of Alberta. Persons attending some Home and School Association meetings were asked to sign an attendance sheet. The location of the residence of each pupil attending the Sifton School was obtained from the office of the school. The data collected were summarized on twelve tables.

2. MEETINGS

Each of the school systems had one school which was used as a meeting place for adults. The Public School District had two schools which were used as meeting places,

TABLE 11.1

USE OF SCHOOL PROPERTY BY THE COMMUNITY FOR MEETINGS 1961-1962

Name of school	Sponsoring group or function	Number of meetings
John W. Russell	Camrose Agricultural Society	2
	4H Club speech contest	1
	T.B. organization meeting	1
	Rotary Club Dutch Auction	1
Camrose High	Home and School Association	9
	Home and School Executive	9
	Teachers' Science 20 Committee	6
	Biology 20 Institute	1
	A.T.A. Fall Convention	2 days
	A.T.A. sub-local	4 or 5
	World Day of Prayer	1
	Ministerial Association	several
	Taylor Pearson and Carson	2 days
Saint Patrick's	Home and School Association	1 per month
	Home and School Executive	1 per month
	A.T.A. sub-local	4 or 5
	C.Y.O. policy committee	2
	Institute of teachers of religion	1 day
	Recollection for school students	1 day
Sifton	Home and School Association	9
	A.T.A. sub-local	3
	A.T.A. policy committee	varies
	4H Beef Club	10
Camrose Lutheran College	Leadership Training for young people	1 week
	Church Conference	4 days
	Church committees	4 approx.
C.L.B.I.	Saturday night program by students	every second Saturday
	Lutheran League Leadership school	1 week
	Alberta Inner Mission	2 weekends
A.B.I.	Church convention	in July and August

the Camrose High School and the John W. Russell School. The places of meetings are shown on Table 11.1.

The Camrose High School was the school with the largest number of organizations using its facilities for meetings. Teachers' groups and the Home and School Association made more use of the school facilities than any other group. Use was made of the school property by two religious groups, and by one business organization. Since there were only nine sponsoring groups or functions, and since there were thirty-five meetings plus several meetings by one group, the number of meetings for which the school property was used indicated that it was not required by the public extensively. The average number of meetings per week was not more than one.

The John W. Russell School was used by varied groups. These groups were not associated directly with the school.

The use of Saint Patrick's School as a meeting place showed a somewhat similar picture to that of the Camrose High School. According to Table 11.1 the school facilities were used chiefly by the Home and School Association and by teachers' groups. Some slight use was made of the property by the Roman Catholic Church for other than regular school purposes.

At the Sifton School the Home and School Association

and teachers' groups were the chief groups using the school for a meeting place. Some use was made of the school by a 4H Club.

The meetings at the private schools were closely associated with the churches sponsoring the schools. No other groups used the facilities for meetings.

It seems that the greatest use of school property for a meeting place by the public was by those organizations and groups most closely associated with the formal school life. In the case of the Public School District, the only system with more than one school, the greatest use was made of the largest school--the one offering the most varied facilities. The analysis suggests that the facilities available at a school were a factor in determining the use made of school property by the community for meetings. Another determining factor seemed to be the school system which was financed and supported or which was used during hours of employment by adult personnel. The analysis, summarized on Table 11.1, does not indicate that the location of the school was a factor in its use by the community for all meetings.

To check further on the effect of the location of the school on the use made of it for meetings, data were collected at Home and School Association meetings at the

Saint Patrick's School, at the Camrose High School, and at the Sifton School in the spring of 1962. Those in attendance at the meetings were asked to sign their name and to give their address or the location of their residence on an attendance sheet. It was not possible to determine whether the data collected at these meetings were complete for the attendance since the researcher was not present. Each meeting was open to all teachers and parents of pupil personnel in the school system.

The distribution of adults attending the Home and School Association meetings was analyzed on maps. Concentric circles with radii increasing by a distance representing one-quarter mile were drawn with centres at the Camrose High School and the Saint Patrick's School. At the Sifton School, where parents living in the rural area attended the meetings, concentric circles were drawn with the radii increasing by a distance representing three miles. The distribution of all pupils in attendance in the Camrose Separate School District and the Camrose Public School District and all but eleven pupils, for which addresses were inadequate, in the Camrose School Division was determined from the same maps. The distribution of the adults and the pupils was summarized on tables.

The tables were examined to determine whether the location of the school had an effect on the attendance at

Home and School Association meetings. If the ratio of pupils to parents was the same in each of the zones marked by the concentric circles, the percentage of adults eligible for attendance at the meetings from each zone would be the same as the percentage of pupil personnel from each zone. If nearness to the school was a factor in attendance at meetings, the percentage of adults attending could be expected to be higher in the zones nearest to the school and lower in the zones farthest from the school than the percentage of pupil personnel living in the respective zones.

The distribution of all Public School District pupil personnel, as shown on Table 11.2, when compared with the distribution of adults attending a Home and School Association meeting, as shown on the same table, suggests that the location of the school influenced attendance at the meeting, that nearness to the school was a factor in attendance. While 16 per cent of the pupils lived within one-quarter mile of the school, 25 per cent of the adults attending the meeting lived within one-quarter mile of the school. There were 22 per cent of the pupils living within one-quarter to one-half mile of the school, but 25 per cent of the adults in attendance at the meeting came from the same zone. Beyond one-half mile from the school the percentage of pupil personnel was higher than the percentage of

TABLE 11.2

DISTRIBUTION BY DISTANCE OF ADULT ATTENDANTS AT A HOME AND SCHOOL ASSOCIATION MEETING AT THE CAMROSE HIGH SCHOOL AND OF PUPIL PERSONNEL IN THE PUBLIC SCHOOL DISTRICT

1962

Distance in miles	Adults May 14 N = 57	Pupil personnel N = 1,184
0 to $\frac{1}{4}$	25%	16%
$\frac{1}{4}$ to $\frac{1}{2}$	25	22
$\frac{1}{2}$ to $\frac{3}{4}$	18	22
$\frac{3}{4}$ to 1	21	24
1 to $1\frac{1}{4}$	9	8
$1\frac{1}{4}$ to $1\frac{1}{2}$	2	1
Rural	2	7

adults attending the meeting. Residence within one-half mile of the school appeared to be a factor in attendance at the Home and School Association meeting.

The distribution by distance of adults attending two meetings at the Saint Patrick's School, as shown on Table 11.3, was compared with the distribution of all pupil personnel attending the school, as shown on the same table. For the meeting on April 4 the percentages for the distribution of adults in attendance and for the pupil personnel differed by no more than 3 per cent in any zone. The analysis suggests that the nearness of the school was not a great factor in attendance at the meetings beyond one-quarter mile from the school. At the meeting on May 31 percentages of adult and pupil personnel in the zones varied up to 5 per cent. However, 41 per cent of those attending the meeting and 44 per cent of the pupil personnel lived within one-half mile of the school. There were 74 per cent of those attending the meeting who lived within three-quarters mile and 73 per cent of the pupil personnel lived within three-quarters mile of the school. Similarly, combined percentages for the two meetings differed by no more than 3 per cent from the distribution of pupil personnel. The location of the school did not appear to have a marked effect on the attendants at the meetings, especially for those living more than one-half mile from the school.

TABLE 11.3

DISTRIBUTION BY DISTANCE OF ADULT ATTENDANTS AT
TWO HOME AND SCHOOL ASSOCIATION MEETINGS
AND OF PUPIL PERSONNEL AT THE
SAINT PATRICK'S SCHOOL

1962

	Adults			
Distance in miles	April 4 N = 38	May 31 N = 54	Totals N = 92	Pupil personnel N = 404
0 to ¼	29%	28%	28%	26%
¼ to ½	18	13	15	18
½ to ¾	29	33	32	29
¾ to 1	11	9	10	12
1 to 1¼		4	2	3
1¼ to 1½		2	1	
Rural	13	11	12	12

The distribution of personnel from the Camrose School Division attending two Home and School Association meetings at the Sifton School is shown on Table 11.4. The same table shows the distribution of 218 pupils out of a total of 229 pupils in attendance at the school in 1961-1962.

TABLE 11.4

DISTRIBUTION BY DISTANCE OF ADULT ATTENDANTS AT TWO HOME AND SCHOOL ASSOCIATION MEETINGS AND OF PUPIL PERSONNEL AT THE SIFTON SCHOOL
1962

Distance in miles	Adults March N = 27	 April N = 20	 Totals N = 47	Pupil personnel N = 218
0 to 3	15%	10%	13%	9%
3 to 6	37	40	38	36
6 to 9	33	35	34	28
9 to 12	15	15	15	26

In the three zones nearest the school the percentage of adult attendance at meetings was higher than the percentage of pupil personnel living in each zone. Beyond nine miles from the school the percentage of pupil personnel living in the zone was higher than the percentage of adults attending the meetings. The comparison of percentages in the zones defined by distance from the school on the table suggests that

nearness to the school, for those attending, was a factor in attendance at meetings, and that beyond nine miles from the school attendance at Home and School Association meetings was likely to be affected adversely by the distance.

In summary, the schools used for meetings by the community were located in the central part of the city and near or on the periphery. Each school system had its one school used as a meeting place for adults, and the Camrose School District had two of its schools used as meeting places for adults. Those groups associated with the school through their children or their church tended to make the most use of the school property.

Attendance at Home and School Association meetings seemed to be influenced by the location of the school. Nearness to the school, for those attending, was a factor in attendance at meetings. In the Public School District beyond one-half mile from school the percentage of adults in attendance at the meetings was less than the percentage of pupils in attendance from the same zones. When the distance was less than one-half mile, the percentage of adults in attendance was more than the percentage of pupils from the same zones. In the Separate School District for those living beyond one-half mile from the school, the distance from the school did not seem to be a factor in

attendance. For those living less than one-half mile from the school, nearness to the school seemed to be a factor in attendance at meetings. At the Sifton School, when the distance from the school was greater than nine miles, attendance at the Home and School Association meetings seemed to be reduced by the distance factor. In short, within the city in the Public School District a distance of more than one-half mile, and within the rural area a distance of more than nine miles seemed to contribute to non-attendance at Home and School Association meetings. However, since the total attendance at the meetings was very small in comparison to the total number of pupils in attendance at the schools, nearness to the school was not a determining factor for attendance of all adults eligible for attendance.

While the analysis did not show it conclusively, it suggested that the facilities available and the church and/or school associations as well as the location of the school affected the use made of the school by adults in the community.

3. ADULT EDUCATION

For the purpose of this study adult education courses included shorthand, typewriting, bookkeeping, and

choral workshop classes held at the Camrose High School, and an Evening Credit Course from the University of Alberta offered at the Camrose Lutheran College. While adults may have been involved in other study groups, the classes studied were all tuition classes. The typewriting classes were held twice weekly and all other classes were held once weekly. The length of the courses varied from ten weeks to seven months.

Simple questionnaires, as shown in the Appendix, were sent to all personnel in the classes who were resident within the city limits. While the questionnaires were sent to seventy persons, because of the nature of the questionnaire, of the time tabling of the courses, and of the location of the classes, personnel of the classes were asked to complete a questionnaire for each course taken. This means that eighty-two questionnaires were distributed. There were fifty-two questionnaires or 63.4 per cent returned.

Data from the questionnaires were analyzed to determine whether the location of the school influenced its use for adult education purposes. This analysis is partially summarized on Table 11.5. The Camrose High School was used for four courses, and the Camrose Lutheran College was used for one course in the adult education classes. There was

not a general use of all or several school buildings for adult education purposes.

The distribution of the personnel taking adult education courses is shown on Table 11.6, page 427, and on Maps 22 and 23. A much higher percentage of the personnel attending the Camrose Lutheran College than of the personnel attending the Camrose High School lived near the school.

TABLE 11.5

USE OF SCHOOL PROPERTY BY THE COMMUNITY FOR ADULT EDUCATION 1961-1962

Name of school	Type of class	Frequency of meetings
Camrose High	Shorthand	Once weekly for 20 weeks
	Typewriting	Twice weekly for 20 weeks
	Bookkeeping	Once weekly for 20 weeks
	Choral Workshop	Once weekly for 10 weeks
Camrose Lutheran College	Evening Credit Course	Once weekly for 7 months

However, there were nearly eight times as many students attending classes at the Camrose High School as there were attending classes at the Camrose Lutheran College. With 48 per cent of the adult students living within one-half mile of the schools, and with 77 per cent of them living within three-quarters mile of the school, it appears that the

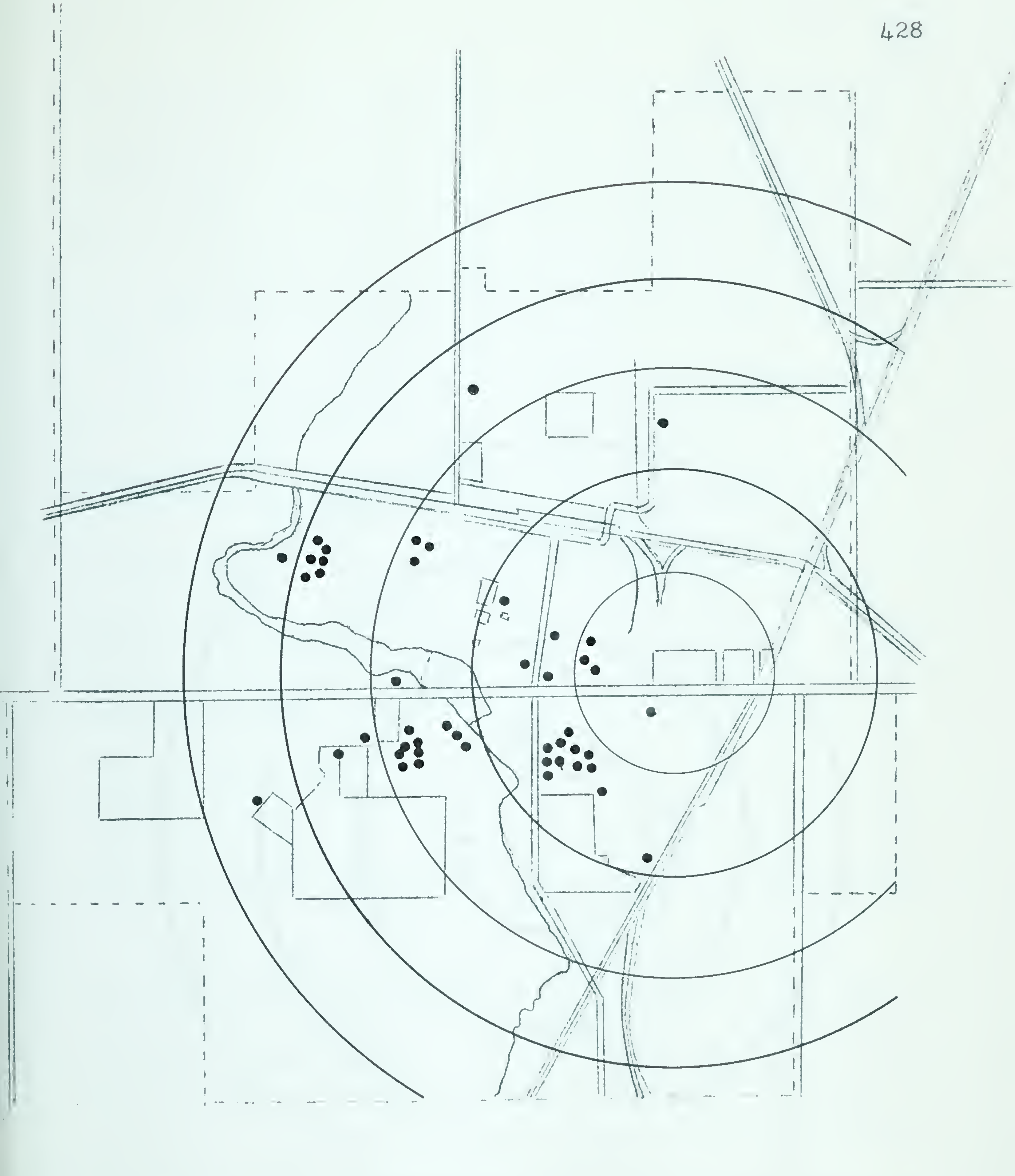
location of the school may have had some effect on the registrations in a course. However, additional data showing the distribution of adult population are required to determine the degree of influence that the location of the school had on enrolment in adult education classes.

TABLE 11.6

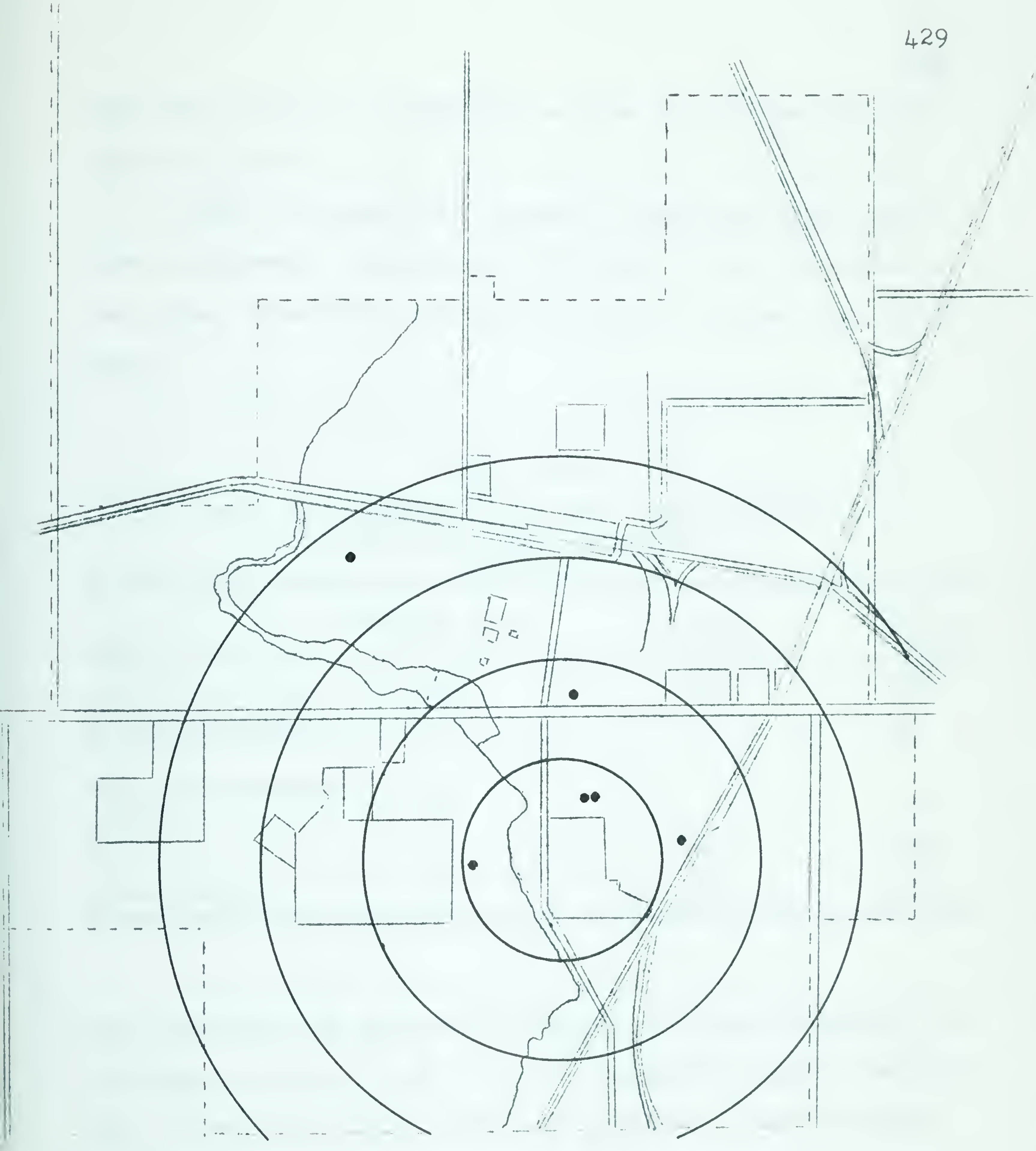
DISTRIBUTION OF PERSONNEL TAKING
ADULT EDUCATION COURSES
1961-1962

Distance in miles	Camrose High N = 46	C.L.C N = 6	Totals N = 52
0 to ¼	9%	50%	13%
¼ to ½	35	33	35
½ to ¾	33		29
¾ to 1	20	17	19
1 to 1¼	4		4

The mode of journeying to the school used by adult education class personnel is shown on Table 11.7. Well over half of the personnel drove their own car (58 per cent), while only 15 per cent walked to class. This last figure compares closely with the 13 per cent of personnel, as shown on Table 11.6, who lived within one-quarter mile of the schools. A comparison of Tables 11.6 and 11.7 suggests that when adults



Map 22. Distribution of personnel in adult education classes at the Camrose High School. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one adult.



Map 23. Distribution of personnel in adult education classes at the Camrose Lutheran College. The radii of the concentric circles increase by a distance representing one-quarter mile. Each dot represents one adult.

lived more than one-quarter mile from school they did not walk to classes.

Adult personnel were asked to indicate which one of three statements, related to the effect of the location of the school upon their decision to take a course, applied to them.

TABLE 11.7

MODE OF JOURNEYING TO SCHOOL USED BY ADULT EDUCATION CLASS PERSONNEL
1961-1962

Mode of travel	Camrose High N = 46	C.L.C. N = 6	Totals N = 52
Drive my own car	63%	17%	58%
Driven by someone in my household	15		13
Ride with someone else	9		8
Walk	11	50	15
Other (taxi)	2	33	6

The percentage of personnel responding to each statement is indicated in Table 11.8. For the fifty-two persons responding, 77 per cent stated that the location of the school in Camrose had no effect on their decision to take the course. This percentage corresponds closely with the percentage, as indicated on Table 11.7, that rode to class (79 per cent). There were 50 per cent attending Camrose Lutheran College

that stated that the nearness of the school was a factor in helping to decide to take the course. The same percentage of class personnel walked to classes at that school.

TABLE 11.8

EFFECT OF THE LOCATION OF THE SCHOOL UPON THE DECISION TO TAKE A COURSE

1961-1962

Reason expressed	Camrose High N = 46	C.L.C N = 6	Totals N = 52
The nearness of the school was a factor in helping me to decide to take the course.	15%	50%	19%
My distance from the school made the decision to take the course difficult.	2	17	4
The location of the school in Camrose had no effect on my decision.	83	33	77

In summary, the analysis seemed to indicate that the location of the Camrose High School had some influence on the use the community made of the school for adult education. Since only 11 per cent walked to class, to have a mode of transportation could have been a contributing factor in registration in a course. While there were 11 per cent who walked to classes at the Camrose High School, 15 per cent said that

the nearness of the school was a factor in helping to decide to take the course. A larger proportion of adult students at the Camrose Lutheran College indicated that the location of the school influenced their decision to take the course than at the Camrose High School. However, a larger percentage of adult students at the Camrose High School than at the college depended upon a car for transportation. With adult education personnel widely scattered throughout the city, the location of the schools did not seem to have a great influence on their use for adult education for those who were enrolled in courses. The analysis did not indicate whether other persons would have registered in the courses had they been offered at other locations in the city.

4. CONCERTS

By interviewing all principals or vice-principals, school presidents, and deans of the schools, data on the use of the schools by the community for concerts were obtained. The data are summarized on Table 11.9.

The facilities of one school only, the Camrose High School, were used for concert purposes. It is shown on Table 11.9 that twelve concerts were held. Since this school had the largest school gymnasium in the city, it seems highly

TABLE 11.9

USE OF SCHOOL PROPERTY BY THE
COMMUNITY FOR CONCERTS
1961-1962

Name of school	Sponsoring group or function	Number of concerts
Camrose High	Overture Concert Series	4
	Eastern Star Choral Festival	2 nights
	Home and School Association	1
	Peterkin Chorale	1
	Ministerial Association (Messiah)	1
	Wild Life in Canada*	2
	S.P.E.B.Q.S.A.	1

*"Wild Life in Canada" was illustrated lectures.

probable that the facilities available rather than the location of the school were the factor which determined where the concerts were held.

5. SPORTS

All principals or vice-principals, school presidents, and deans were interviewed to determine the use made of the school facilities by the community for sports purposes. The analysis summarized on Table 11.10 shows the use made of the school, the type of sports activity in which persons participated, and the frequency of use of the school facilities. The school grounds with the largest playing fields were the sites used most, and outdoor space was used more than indoor space. The John W. Russell School, with a small playground and a small gymnasium, had its gymnasium used by a Keep Fit Club. While this school was centrally located, all other schools used for sports activities were located on or near the edge of the city. The gymnasium at the Camrose High School was used on five occasions, and the gymnasium at the Saint Patrick's School was used for two days for sports purposes by the community.

Once again, the space and facilities available at the school site seemed to be the factors which determined the demand upon school property for community use rather than the location of the school.

TABLE 11.10

USE OF SCHOOL PROPERTY BY THE COMMUNITY FOR SPORTS ACTIVITIES 1961-1962

Name of School	Type of activity	Frequency of use
Camrose High	Softball (Recreation Commission	Spring and summer
	Referee school Basketball (City boys)	3
	Basketball tournament (Kinsmen's Carnival)	2 days
John W. Russell	Keep Fit Club	Weekly for 25 weeks
Sparling	Softball (Recreation Commission	Spring and summer
Saint Patrick's	Softball (Recreation Commission	Spring and summer twice weekly
	Baseball (Recreation Commission	Spring and summer twice weekly
	Basketball (Kinsmen's Carnival)	2 days
Sifton	Softball (Recreation Commission)	Spring and summer

6. CIVIC PURPOSES

By interviewing the administrative personnel at each of the schools, data were secured to determine the use made of the school property for civic purposes. It is shown on Table 11.11 that five of the schools in the city were designated for use in civil defence emergency.

TABLE 11.11

USE OF SCHOOL PROPERTY FOR CIVIC PURPOSES
1961-1962

Name of school	Purpose for which property was used	Extent of use
Camrose High	Civil Defence emergency	
John W. Russell	Civil Defence emergency Dominion election (3 polls)	 1 day
Saint Patrick's	Civil Defence emergency	
Camrose Lutheran College	Civil Defence emergency	
Alberta Bible Institute	Civil Defence emergency	

The schools used represented the largest schools in the city and were located in the north, east, south, west and central parts of the city. Both the facilities available and the locations of the schools seemed to be contributing factors in the choice of the sites for civil defence emergency. In addition, the John W. Russell School was used

for three polls in the Dominion of Canada election. The location of the school would contribute to its choice as a polling site.

It seemed safe to conclude that the location of the school site was a contributing factor in the use made of schools for civic purposes.

7. MISCELLANEOUS

The interviews with administrative staffs of the schools indicated that there were additional uses of the school property by the community. These uses are listed in Table 11.12.

Miscellaneous use was made of seven schools by the community. The John W. Russell School, centrally located in the city and having a small gymnasium, was used by four groups which needed the space the school had to offer. The Gun Club, sponsored by a Roman Catholic organization, used the Saint Patrick's School where a large gymnasium was available. In two of the private schools the residential facilities were used by outside groups, and at the third one the grounds were used for garden plots. The use made of the school property suggested that the facilities available were a strong force in determining the use made of the school property by the community.

TABLE 11.12

MISCELLANEOUS USES OF SCHOOL PROPERTY
1961-1962

Name of school	Purpose for which property was used	Extent of use
Camrose High	Music theory examination	1 day yearly
John W. Russell	Art Auction Sale	1 day
	Eastern Star Flower Show	1 day
	Camrose Touch Down Club	1
	4H Club Speech Contest	1
Sparling	T.B. chest x-ray	2 days
Saint Patrick's	Gun Club Bingo	3
Camrose Lutheran College	Church Committees	4
	United Church used residence facilities	5 days
C.L.B.I.	Camrose Lutheran College used 3rd floor;	10 months
	Church of God used residence facilities;	1 week in July
	American Lutheran Church Women used dormitory;	1 week in June
	Deeper Life Movement.	1 week in August
A.B.I.	Garden plots	8 families

8. SUMMARY AND CONCLUSIONS

The ecological analysis made in this chapter on school use by the community showed that spatial relations were important for three kinds of school use. One was for meetings, at which persons living comparatively close to schools constituted the largest proportion of the audience. A second was for adult education classes. Nearness of the school where courses were held was a factor in decision making of 19 per cent of the persons taking courses. The third was for civil defence and other civic uses, which appeared to utilize schools according to location to serve segments of the community. However, for other kinds of school use--concerts, sports, and fourteen miscellaneous uses--the size, kind of facilities, and church affiliation appeared to be the main factors rather than location.

Further research is suggested from this analysis. Additional study is required to determine where the personnel using the private schools lived in relation to the location of the schools. The data do not enable the researcher to compare schools with comparable facilities in contrasting locations, such as a site on the periphery or a site in the central part of the city. While this analysis indicates relationships between the location of

the school and the use of the school by the community, it is an incomplete analysis of the situation.

The analysis of the school property by the community suggests the specialized forms of the competitive process. These ecological processes are analyzed in the next chapter.

CHAPTER XII

DETERMINANTS AND PROCESS IN THE COMMUNITY USE OF SCHOOLS

1. INTRODUCTION

There are two assignments undertaken in this chapter. The first is to summarize and interpret in ecological terms the analysis made in Chapter XI of community use of school property. The second task is to apply some theories of neighbourhoods, as discussed in Chapter II, to the Camrose scene. From this discussion some areas for further research which have become apparent are suggested. The chapter is concluded with a brief summary.

2. ECOLOGICAL PROCESSES

Concentration

It is difficult to determine the extent of the ecological process of concentration due to community use of schools and school property. Adult use of school property may take place because people are residentially concentrated in the urban and surrounding rural area for other reasons, one of which may be access to schools for

their children. Thus, the main function of the school and not the community function, may be one of the factors that tends to concentrate people residentially.

The automobile, as a mode of transportation, seems to affect the size of the zone over which a focal point can dominate. It enables people to concentrate in the urban community for many forms of community activities, a number of which take place in school buildings or on school grounds.

There seemed to be some concentration of adults who used school facilities. Some adults were concentrated at seven sites for meetings, at two sites for adult education, at one site for concerts, at five sites for sports, at one site for civic purposes, and at seven sites for miscellaneous uses.

Centralization

The use of school property by the community was not centralized at one school. However, the Camrose High School was the centre of dominance among the schools since it was the school used most frequently by the community. This dominance was associated with the school having the largest gymnasium used as a community auditorium.

Sub-centralization

Community personnel were sub-centralized at eight school sites for community use of schools. This sub-centralization occurred in the Camrose Public School District at three sites, in the Camrose Separate School District at one site, in the Camrose School Division at one site, and at the site of each of the private schools. Community personnel were sub-centralized at seven schools for meetings, at two schools for adult education classes, at five schools for sports activities, and at five schools (theoretically) for civic purposes. In addition, seven schools were used for miscellaneous reasons.

While the location of the school, the space available, and the facilities in the space available at a school could be manifest reasons for sub-centralization in community use of school property other than regular school classes, the latent reasons might be quite different. The analysis in Chapter XI indicated that the use of the school for community meetings, for adult education, and for miscellaneous reasons, seemed to be related to the regular school use. Hence, churches used their own church schools, and the rural community used its school. The schools of the Public School District were used for more general or community-wide purposes. Therefore,

there is a possibility that the latent reason for using a school for community purposes was its association or lack of association with a church or school system. In some cases the latter also could be the manifest reason.

Segregation

The use of school property by the community appeared to reflect segregation in two forms--residential and social. Each form is considered separately.

Residential segregation. Residential segregation seemed to be associated with attendance at some meetings but not at others. Only those persons who were concentrated in the Camrose School Division and had children attending the Sifton School attended Home and School Association meetings in the Sifton School. Only persons concentrated in the Public School District or in the Separate School District attended Home and School Association meetings in the Camrose High School or the Saint Patrick's School. Rural residents attended 4H Club meetings at the Sifton School. On the other hand, attendance at some meetings was not regulated by residential segregation but was open to all who wished to attend. Others, while apparently not open by their nature to everyone, did not have personnel in attendance determined by residential segregation.

For some meetings segregation was related to residential concentration near schools. For Home and School Association meetings it was found that personnel concentrated near the school tended to make up the largest part of the audience.

Residential segregation for those attending adult education classes did not seem to exist. However, there was a possibility of residential segregation for some not taking the courses due to distance from the schools. This possibility could not be explored in this study, because the analysis did not show the number of persons who would have enrolled in a course had one been held at another site.

There was evidence of residential segregation in the use of school property for civic purposes. There were five schools in five different areas selected for civil defence emergency. Voters living in three specified areas used one school for polls in the Dominion of Canada election.

This analysis does not indicate whether residential segregation was associated with other uses of school property by the community--concerts, sports, and miscellaneous uses. While residential segregation is a possibility, the extent to which it is related to community school use is an area for further research.

Social segregation. The possibility that community use of school property stimulated social segregation cannot be overlooked. Such segregation seemed associated with the use of schools for meetings, for adult education, for concerts, for sports, for civic purposes, and for miscellaneous uses.

Social segregation appeared to be related to meetings. Personnel attending a meeting were socially segregated from those who did not attend. The place of meeting, influenced by the nature of the meeting, seemed to have a bearing on the attendance. Since adults tended to use the school facilities which they supported by taxes or by church affiliation, social segregation seemed to be a possibility.

Some social segregation appeared to be a consequence of adult education classes. Those attending classes were socially segregated from adults not attending classes. Those attending classes at one school were socially segregated from those attending classes at another school. Those walking to class were socially segregated from those riding to class. Those attending classes on different evenings were socially segregated from each other.

With one school only used for concerts, social segregation was not aggravated by functions held at more

than one site. However, those who attended the concerts were segregated from those who did not attend the concerts. On the other hand, audiences at the concerts were comprised of both urban and rural personnel, thus reducing urban-rural social segregation.

Perhaps the use of school playgrounds and buildings for sports influenced social segregation. Those who participated were segregated from those who did not participate. Spectators at sports functions were segregated from players. Those using one school for sports were segregated from personnel using other schools.

Social segregation which might result from civic uses of school property would be slight. While five schools were designated for use in civil defence emergency, no use was made of the schools. The use of a school for three election polls would not promote social segregation of duration beyond one day.

Social segregation resulting from miscellaneous use of school property was related to the segregation resulting from meetings. Property tended to be used by those in the adult community that supported the schools.

Social segregation which already existed may have been emphasized by participation or non-participation in community use of school property. On the other hand, it

may have made what already existed apparent to the researcher. Participation in activities may have reflected differences in education, past experiences, age, sex, social class, income, ethnic origin, religion, values, or social mobility. This is an area for much more research, an area for research made more obvious by this ecological analysis.

Invasion

The ecological process of invasion seemed to be a possibility in the use the community made of school buildings and sites. Adult personnel from the rural area invaded the urban area to use school facilities. Adults in the attendance area of each school system within the city invaded, by their very place of residence, the attendance area of other school systems.

It appeared that schools no longer needed to be within convenient walking distance for many of the adult population. The community personnel could invade areas beyond walking distance. People could drive to adult education classes in schools where space was available and facilities adequate, regardless of the location of the school in the city. Concerts could be attended in schools where there were large gymnasiums, again providing the required space. People could ride to the

school which had a gymnasium or a playing field adequate for sports. However, it was noted that community activities in schools took place usually in the evening or on holidays when the time-cost factor was at its lowest, and when there was no competition for the space by pupils and teachers. If this were not the case, perhaps location would be much more important.

Succession

The data seemed to indicate no evidence of succession in community use of schools. No category of personnel seemed to have been successful in competing for space to the extent that they had replaced others more or less permanently in their use of school facilities. Rural residents had invaded the urban area for the use of school space, but there was no competition by city residents for the same facilities. Further, persons from the public school did not ordinarily request the use of separate or private school facilities. This was probably because local conditions and cultural patterns had already regulated the community use of school property.

3. APPLICATION OF NEIGHBOURHOOD THEORIES

The use of school facilities suggests some of the principles of neighbourhood planning. Some writers placed

the elementary school and shopping area at the focus of the neighbourhood.[1] A community may lack a focus but may have a central area physically.[2] A neighbourhood has been described as a distinct territorial group with inhabitants with specific social characteristics, and as a territorial group where the members meet on a common ground within their own area for primary, for organized, and for spontaneous social activities. Neighbourhoods are easily found according to the first definition, but are not easily found according to the second. An indicator of a neighbourhood, according to the second definition, is a number of institutions used by some inhabitants. Another indicator is inhabitants not using such institutions in another community.[3]

Riemer and Brussat said that the child has two neighbourhoods--at home and at school. In high school his friends may be from other sections of the city, and

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[1] Frederick Gibberd, Town Design (London: The Architectural Press, 1953), p. 211.

[2] Ruth Glass, "An Introduction to Middlesbrough," The County Borough of Middlesbrough, directed by Max Lock (Yorkshire: The Middlesbrough Corporation, [1946]), pp. 18-22.

[3] Ruth Glass, "The Structure of Neighbourhoods," op. cit. p. 156.

he has an "interest neighbourhood."[4] As one becomes more physically mobile, the geographic area of identification becomes of less significance, and identification with specific groups becomes important.[5]

The same writer said that parochial schools, private schools, and special schools have a negative influence on neighbourhoods. They may have a cohesive effect among some families, but they may be disunifying so far as the neighbourhood is concerned. He said that parents whose children attend a private school do not focus interest on the public school in the neighbourhood. Certain characteristics of the population--religion, occupation, economic standing, age--might make the elementary school ineffective as a promoter of neighbourhood unity.

The grade level of children tends to influence parental interest. High school pupils may come from several communities. Their parents will have different interest in schools than those of parents of elementary school pupils. A child's loyalties may be influenced by

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[4] Svend Riemer and William K. Brussat, "The Neighbourhood as a Function of School and Childhood--A Critique of the Use of the Elementary School as the Focal Point in the Neighbourhood," Journal of Educational Sociology, XXV (September, 1951), p. 7.

[5] Ibid., p. 8.

competitive sports and the enthusiasm may be communicated to parents.[6]

Riemer and Brussat concluded by saying:

> There is little evidence to suggest that the school should, in fact, be regarded as the focal institution in each neighbourhood. Such a conception bears no resemblance to its present role.[7]

With these points of view in mind the community use of school property in Camrose is considered. Elementary schools, where no other level of grades were present, were not used by the community, but some schools--the Saint Patrick's, the John W. Russell, and the Camrose High School--where some elementary school grades were taught, were used by the community. The analysis suggests that the elementary school was not at the focus of the neighbourhood. According to the definition of a neighbourhood as a distinct territorial group with specific social characteristics, some might be found in Camrose. However, further research is required to determine if there were specific social characteristics in any areas. If one looks for a neighbourhood where members met within their own area "for primary, for organized, and for spontaneous

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[6] _Ibid._, p. 5-15.

[7] _Ibid._, p. 15.

social activities," one could not conclude from data presented in this study that such neighbourhoods were to be found in Camrose if the elementary schools were the focal points. If the high schools and the private schools were the focal point, then the entire city made up the neighbourhood so far as territorial area was concerned. However, the analysis shows that institutions (schools) were used by some inhabitants, but that similar institutions in the same territorial area were used by the same or other inhabitants. This seems to indicate that the community did not meet neighbourhood definitions for adults.

When the community-school relations in Camrose, as indicated from the analysis, are considered with Riemer's ideas, there is no conclusive evidence presented here that parochial, private, and special schools had a negative influence on neighbourhoods. However, the analysis suggests probable cohesiveness among some families since the uses of schools for community meetings appear to be related to the regular school use. Since Camrose shows a diversity of school systems, if Riemer were correct, the urban community would not be closely knit through the use of the schools. It is hypothesized that the physical mobility of members of the community made the geographic

area of identification less significant. Instead, identification with specific groups became important.

4. SUMMARY

The interpretation of findings undertaken in this chapter seemed to show two things. First, the ecological processes of concentration, sub-centralization, and segregation seemed to be evident in the community use of school facilities. Evidence of centralization, invasion, and succession seemed to be very limited. While some ecological processes were evident, cultural and social conditions seemed to affect community use of school property also. Second, the community did not seem to meet neighbourhood definition requirements for adults.

At least three areas of further research were suggested by the analysis of community use of school facilities: (1) the effect of the community use of schools on social relationships; (2) the influence of the ecological process of segregation (residential and social) on the community use of school property; and (3) the relationship between time of day, location of school, and community use of school facilities.

The analysis of the ecology of the school as a factor in school and community relations concludes the analyses attempted in this study. Attention is now directed to the findings and their interpretation in Part V.

PART V. SOME IMPLICATIONS OF ECOLOGY OF SCHOOLS FOR EDUCATIONAL PLANNING AND RESEARCH

CHAPTER XIII

MAJOR FINDINGS, COMMENTS AND CONCLUSIONS, AND RECOMMENDATIONS FOR TOWN AND EDUCATIONAL PLANNING

1. INTRODUCTION

Part V concludes the ecological analysis of schools in Camrose. The analysis has been directed to answer four main questions: What has been the ecology of school sites in Camrose? What was the ecology of school personnel in the spring of 1962? What have been some effects of the ecology of schools on school-community relations? What are the implications of the ecology of this city's schools for town and educational planning? Attempts to answer the first three questions were undertaken in Parts II, III, and IV, and findings were summarized at the end of each chapter. An endeavour to answer the fourth question is made in Chapter XIII. Suggestions for further research are given in Chapter XIV.

To answer the fourth question three tasks are undertaken. The major findings from the analyses are summarized. Comments and conclusions are stated next. Lastly, recommendations for town and educational planning are enumerated.

2. MAJOR FINDINGS

1. Part I. The first part of this study was concerned with a survey of the literature relevant to an ecology of education with emphasis on ecology, on ecology of education generally, and on ecology of schools in Alberta. In the literature reviewed it was difficult to follow trends or diffusion of ideas. However, three things seemed apparent.

1.1 Area of school sites. Different means of arriving at required school site areas made standards in England, America, and Alberta difficult to compare.

1.2 Neighbourhood planning. Neighbourhood planning was mentioned in publications from England and from Alberta. While there was little evidence that such planning had been put into practice in small cities, some of the characteristics of neighbourhood planning were used in newer areas of development.

1.3 Ecology of schools in Alberta. Some trends seemed apparent in Alberta. With the centralization of schools, and with the enlarged curriculums, the trend seemed to be toward larger schools built on larger sites than in the past. Improved roads and enlarged and improved buses were used to meet problems of space in the journey to school

in Alberta. Television, radio, and correspondence courses helped to solve some problems in education related to space. There was a decrease in the use of school dormitories in Alberta School Divisions.

2. Part II. These findings were based on the analysis of the ecology of school sites in Camrose. To place the ecological analysis in context brief descriptive and historical accounts of Camrose were included.

2.1 Location of Camrose. Camrose, a trade city, was located in Central Alberta parkland in a humid, continental cool summer climate with extremes in temperature. The economy of the area was based on agriculture largely with some coal, oil, and small industries. There was access to the city, located about forty-five miles southeast of Edmonton, by rail and highway from all directions.

2.2 Urban development. Camrose received city status in 1955, after growing from a hamlet to a city in fifty years. By 1961 the population reached 6,924. The school system developed from one classroom to multi-room and multi-system. While some town planning was begun when the urban centre was still a town, the Battle River Planning Commission did not become an advisor until after Camrose received city status.

2.3 Ecology. There was some evidence of concentric circle development, lateral commercial development, and ecological processes of competition. The traffic arteries and Stoney Creek divided the city into six city areas. It seemed very unlikely that two of the older city areas and one of the newer city areas would expand in size. Most of the commercial, industrial, and old residential areas, as well as four schools, eight churches, and areas in transition were in the older parts of the city--Zones 1, 2, and 3. In the newer parts and the outer zone of the city most of the parks, three new school sites, three school sites established before 1936, three school sites established between 1952 and 1957, the hospitals, six churches, and new residential areas were located.

2.4 Development of school facilities. The school facilities grew from accommodation in a temporary classroom to multi-room and multi-system. The Camrose Public School District, the Camrose Separate School District, and the Camrose School Division operated schools in Camrose. There were three private schools under the auspices of churches. The normal school, opened in 1912, was closed in 1938. Proposed building programs indicate further expansion of the school facilities.

2.5 Locations of school sites. School sites

tended to be on the periphery when they were occupied first. However, there were three small sites that were located in residential areas when the schools were built--two primary schools and one private school.

2.6 Acquisition of sites. Only two of the fifteen sites were not acquired from the town. These sites were purchased in 1957 and 1962. Until 1957 school sites were provided free or nearly free by the town. Some sites reserved for schools by the town were not used while others were used for school purposes. Some sites were selected by school boards from vacant property owned by the town.

2.7 Areas of sites. There was no regular or consistent increase in areas of sites per regular classroom. Enlargement of three school buildings decreased the site area per regular classroom. Sites acquired in 1962 showed an increase in size over those acquired previously. Among the private schools, the one established first had the largest site while the one established last had the smallest site.

3. Part III. The ecology of school pupil and adult personnel was analyzed in Part III. The analysis included the distribution of personnel by distance from

school and by city areas, the journey to school, and the ecological processes in the distribution of school personnel. Findings were given in detail at the conclusion of each of the chapters concerned with data analysis. Some major findings are summarized here.

3.1 Distance pupils lived from school. Approximately four-fifths of all pupil personnel lived within three-quarters mile of the school which they attended.

3.1.1 Elementary school pupils lived from less than one-quarter mile to one and one-quarter miles from school within the city, and 7 per cent of the pupils lived in the rural area. There were 65 per cent of the elementary school pupils living less than one-half mile and 87 per cent living less than three-quarters mile from school. Only one school had all its pupils living within three-quarters mile of the school.

3.1.2 The distance which was travelled to the junior high schools in Camrose was less than one mile for all but 4 per cent of the pupils who were resident in the city and 7 per cent of the pupils who were from the rural area. There were 78 per cent of the junior high school pupils living within three-quarters mile of the school attended.

3.1.3 At the senior high schools 68 per cent of the pupils lived within three-quarters mile, and 81 per

cent lived within one mile of the school attended. There were 5 per cent of the pupils living from one to one and one-quarter miles from school and within the city boundaries, and 13 per cent living in the rural area.

3.2 Distance travelled by pupil personnel compared with recommended maximum distances. In general, distances travelled to school by pupil personnel compared favorably with recommended maximum distances. The situation was somewhat less favorable for elementary school pupils than for junior and senior high school pupils. In the case of the elementary school pupils 65 per cent and 87 per cent lived within one-half and three-quarters mile respectively of the school attended--two suggested maximum distances.

3.3 Concentration of pupils' residences in relation to school location. At all grade levels concentration of pupils' residences in relation to school location occurred in Zone 1 or within one-quarter mile of the school. Concentration tended to extend beyond Zone 1 more at the junior and senior high school level than at the elementary school level. Concentration of pupil personnel in Zone 1 was especially marked at the private residential schools.

3.4 City areas where pupils lived. Pupil

personnel lived in all city areas. Pupil concentration in the Separate School District was largest in Areas I, II, and III, the three city areas nearest the school. Areas I, II, and IV were the place of residence of most of the Public School District pupil personnel. Most of the pupils attending the Camrose Lutheran College lived in Area IV where the school was located. Pupils at the Bible schools lived in the residences on the campuses.

3.5 Influence of traffic arteries and natural boundaries on school attendance boundaries. Traffic arteries and natural boundaries did not influence attendance boundaries of schools unless a grade was offered at more than one site in a school system. When the latter condition prevailed, traffic arteries and natural boundaries seemed to influence but not define attendance boundaries.

3.6 Distance adult personnel lived from school. The distance journeyed to school by professional and non-professional personnel varied. However, there were 85 per cent of each category living within one mile of their place of work.

3.7 Concentration of adults' residences in relation to school location. Concentration of adults'

residences seemed to be associated with distance from work and with city areas. There were four-fifths of the adult personnel living within three-quarters mile of their place of employment. Areas IV and V were the place of residence for 58 per cent of the professional personnel. There were 64 per cent of the non-professional personnel living in Areas II, III, and IV.

3.8 Distribution of adult personnel by school systems.

3.8.1 The majority of the Public School District professional personnel lived in residential areas of maximum choice. Non-professional personnel in the same school system were scattered residentially throughout the city.

3.8.2 In the Separate School District the majority of the teachers lived either in the city area where the school was located or in an area of maximum choice across the city from the school. Non-professional employees of the same school district lived in the city area where they were employed.

3.8.3 Private school professional and non-professional personnel tended to live in the city area where they were employed or in an adjacent city area.

3.8.4 Teachers employed in the Camrose School

Division were scattered residentially throughout the city while the majority of the non-professional employees lived and worked in the same city area.

3.8.5 Professional personnel at the administrative offices did not live in the city areas where their offices were located, but the majority of non-professional personnel in the same offices lived in the city areas in which the offices were located.

3.9 Comparison of distribution of professional and non-professional personnel. Certain differences were noted in the distribution of professional and non-professional adult personnel. There were more non-professional than professional personnel living on campus. Otherwise, the distance each group lived from their work showed no marked difference. There was a higher percentage of non-professional personnel than professional personnel living in the older parts of the city and in the city areas where the schools were located. A higher percentage of professional than non-professional personnel lived in the south and newer parts of the city and lived where there were fewer schools.

3.10 The journey to school by pupil personnel. The journey to school varied by mode, by season, and by time of day.

3.10.1 Mode. A much higher percentage of pupils journeyed to and from school independently than by any other means. For elementary and junior high school pupils dependence upon parents was the next mode of travel used most frequently, while for senior high school pupils dependence upon a bus ranked second with dependence upon parents in third place. Dependence upon a neighbour or a neighbour and parent ranked in third place for elementary and junior high school pupils and in fourth place for senior high school pupils.

3.10.2 Seasons. The percentage of independent travel was highest in May and lowest in January. Dependence upon a parent or a neighbour and parent was highest in January and lowest in May. The percentage of pupils depending upon a bus to journey to school varied little for the three months studied.

3.10.3 Time of day. A higher percentage of pupils depended upon someone to journey to school than from school. This dependence was greater in the morning than in the afternoon. Dependence upon a bus varied little with the time of day.

3.11 The mode of journey and the frequency of journey to and from school by pupil personnel related to the location of the school.

3.11.1 A variation by schools in mode of travel was noted. There was a tendency at the Saint Patrick's School more than at the other schools for pupils to depend upon someone to take them to and from school. Separate more than Public School District elementary and junior high school pupils depended upon a bus for transportation. Pupils at elementary and junior high school level attending schools on the periphery tended to journey to school independently more than those attending centrally located schools. One elementary school on the periphery where pupils lived in a residential area of maximum choice, seemed more dependent upon someone to journey to school than were pupils attending at other elementary school sites. The Camrose Lutheran College ranked first for independent travel to and from school at the high school level.

3.11.2 Percentages for the mode of journey and for the distance from school showed some relation. The percentage of elementary school pupils journeying to school independently in October (79 per cent) and in May (89 per cent) was greater than the percentage who lived within one-half mile of school (65 per cent). In January the percentage of independent journey for elementary school pupils to school (60 per cent) was higher for all schools than the percentage of pupils living within one-quarter mile (34 per cent) of the school but was lower than the

percentage of pupils living within one-half mile (65 per cent) of school. The percentage of elementary school pupils living in the rural area (7 per cent) was higher than the percentage using a bus to journey to and from school (3 per cent).

The morning percentages (October 78, January 62, and May 84 per cent) of independent journey for junior high school pupils compared quite closely with the percentage (78) of pupils living within three-quarters mile of the school except in January, and the afternoon percentages (October 91, January 85, and May 92 per cent) of independent journey from school compared quite closely with the percentage (89) of pupils living within one mile of school. In January the distance seemed to be reduced by about one-quarter mile in the morning for independent travel. More junior high school pupils lived in the rural area (7 per cent) than used a bus (2 per cent) to travel to and from school.

At the senior high schools the analysis suggested that when the distance to school exceeded three-quarters mile (for 32 per cent), many pupils (24 to 34 per cent) depended upon others for transportation, especially to school in the morning and during the month of January. The percentages of those living within one mile of school (81 per cent) and of those going from school independently

in the afternoon (83, 79, and 82 per cent) compared fairly closely. More senior high school pupils (13 per cent) lived in the rural area than used a bus to travel to and from school (9 to 11 per cent).

3.11.3 The analysis suggested that whether a pupil ate his noon lunch at school was related to his distance from school. Few elementary school pupils living within three-quarters mile of school in October, within one-half to three-quarters mile of school in January, and within one mile in May were likely to eat their noon lunch at school. At the junior high school level few pupils living within one mile in October and January and within the city in May were likely to eat their noon lunch at school. At the senior high school level not many pupils living less than one mile from school were likely to eat their noon lunch at school unless they lived on a campus.

3.12 The journey to work by adult personnel. The journey to work varied by mode of travel and by time of day but only slightly by seasons.

3.12.1 The journey to work varied by mode of travel. From 52 to 60 per cent of the professional personnel drove a car, from 29 to 35 per cent walked, and the remainder were dependent upon others to journey to and from work. In the non-professional group approximately the

same number of people walked as drove a car to work. Together they made up 95 per cent of the non-professional personnel.

3.12.2 Variation by seasons in mode of travel for adults to journey to work was slight.

3.12.3 The mode of travel varied by the time of day. More professional personnel drove to work in the morning and from work in the afternoon than drove from work in the morning and to work in the afternoon. The percentage of professional personnel who walked to work in the morning and from work in the afternoon was approximately the same. For professional personnel dependence upon someone to journey to and from work was highest to school in the morning, and second highest from school in the afternoon. For non-professional personnel the mode of travel varied little with the time of day.

3.13 The mode of journey and the frequency of journey to and from work by adult personnel related to the location of the school and the distance from school.

3.13.1 The mode of journey and the location of work on the periphery or in the central part of the city showed some but not marked relationship for professional and non-professional personnel. Professional personnel employed on the periphery depended upon someone to journey

to and from work more than professional personnel employed on centrally located sites. Professional personnel who walked or drove a car to work did not seem to have their mode of travel influenced by their location of work in the central area or on the periphery. A higher percentage of non-professional personnel employed in the central area than employed on the periphery drove a car to work. Dependence upon someone to journey to work was slight for non-professional personnel. Two of the three schools where it occurred were on the periphery.

3.13.2 Mode of journey varied by distance. The analysis suggested that professional and non-professional personnel who lived within one-quarter mile of their work walked to work. There was limited evidence that at private schools a higher percentage of adult personnel walked a greater distance to work than did the personnel in other school systems.

3.13.3 The frequency of the journey varied with the distance from work. It was assumed that adult personnel who ate their noon lunch at work made the journey to work once daily. The percentage of professional personnel who ate lunch at school compared with percentages of professional personnel who lived on a campus or more than three-quarters or one mile from work. Only non-professional personnel who lived on campus and one

employee at the Saint Patrick's School ate their noon lunch at work. However, there were sixteen per cent of the non-professional personnel who lived more than one mile from their work.

4. *Part IV*. The fourth part of this study dealt with the ecology of the schools as a factor in school-community relations. The use of schools and school sites for meetings, adult education, concerts, sports, civic purposes, and miscellaneous purposes was analyzed, and ecological processes in community use of school property were discussed. The major findings from this analysis are listed below.

4.1 *Meetings*. *Facilities available and the church and/or school associations as well as the location of the school appeared to affect the use made of schools by the adult community*. Schools used for meetings were located on or near the periphery and in the central part of the city. Each school system, except the Public School District which had two schools used, had one school which was used as a meeting place for adults. Those groups associated with the school through their children or their church tended to make the most use of the school property.

Attendance at Home and School Association meetings seemed to be affected by the location of the school.

Nearness to the school seemed to be a factor in attendance. In the Public School District a distance of more than one-half mile, and in the rural area a distance of more than nine miles seemed to contribute to non-attendance at Home and School meetings. In the Separate School District to live within one-quarter mile of the school seemed to contribute to attendance, but to live beyond one-half mile of the school did not have an adverse effect on attendance. However, since the total attendance was small, nearness to the school was not a determining factor for attendance of all adults eligible for attendance.

4.2 *Adult education*. *Nearness of the school was a factor in deciding to take a course for 19 per cent of the adults enrolled in four adult education courses offered at the Camrose High School and one course offered at the Camrose Lutheran College*. The analysis did not indicate whether the location of the schools was a factor in other adults not enrolling in a course.

4.3 *Concerts*. *The facilities available rather than the location of the one school used for concerts were the factors which seemed to determine where concerts were held*.

4.4 *Sports*. *The space and facilities available*, *rather than the location of the five school sites used*,

appeared to be the factors determining the demand upon school property for community sports activities.

4.5 *Civic purposes*. *Both the facilities available and the locations of the schools seemed to be contributing factors in the use of five schools for civic purposes*.

4.6 *Miscellaneous*. For fourteen miscellaneous uses of school buildings and sites, the size, kind of facilities, and church affiliation appeared to be the main factors, rather than location, determining the demand for use of the school property.

3. COMMENTS, IMPLICATIONS, AND CONCLUSIONS

With the fore-going findings in mind, and with full awareness that these findings apply to the City of Camrose only, the following comments, implications, and conclusions are stated.

C.1. *The ecology of school sites is a factor in the land-use system, and in the development of school facilities and school systems*.

1.1 Growth in Camrose, supported by its location in a humid, continental, cool summer climate, by its arable soil suitable for mixed farming, by its rail and highway transportation, by its large trading area, by its

emerging industrial development, by its population growth, and by its growth trends in 1961-1962, indicates continuing expansion of the urban centre.

1.2 The development of the city has been, to a degree, the result of ecological processes. The Battle River Planning Commission and zoning by-laws are contributing to planned competition for space.

1.3 Residential area expansion in the near future is most probable in the southwest, west and north edges of the city with the average value of homes on the north edge lower than those in the other new developments.

1.4 With the anticipated urban growth, a demand for more space for school facilities can be expected. The Camrose Public School District and the Camrose Separate School District enrolments indicate continuing growth. Further school development in Camrose of the Camrose School Division will depend upon school board policy as well as rural school population. The Camrose Lutheran College, with an extensive building program and a site of approximately twenty-eight acres, likely will enlarge its physical facilities and its curriculum. However, the site area seems adequate for considerable physical expansion. The two Bible schools do not require additional space in the near future since residence accommodation in 1961-1962 was greater than was required for the pupil personnel enrolled.

1.5 While some factors associated with the location of school sites may remain similar to those in the past, the means of acquiring a site and the desired size of the site have changed. Space for new school sites likely will be reserved in developing residential areas, thus placing the site on or near the periphery as has happened with all but the very small sites in the city in the past. School systems can expect to purchase sites for their schools, and the sites purchased likely will be larger with more land area per regular classroom than formerly for the Public and Separate School Districts and for the Camrose School Division. A guide used by the Battle River Planning Commission, one acre per classroom, is likely to influence the size of future new school sites. However, factors of community values, of urban growth, of Department of Education regulations, of school curricula, and of the diffusion of knowledge about school sites elsewhere in Canada and the United States will be important influences.

1.6 Traffic arteries and natural boundaries divide Camrose into six areas, some of which are too small to warrant an elementary school with Grades I to VI for the Public School District within the boundaries. Further space development is improbable in three areas, while expansion is possible in three others by invasion of the agricultural area.

1.7 The locating, acquiring, and maintaining of school sites in the growing community of Camrose were to a degree a consequence of ecological processes in the community and within the school systems in the community. Concentration of formal education occurred at the first school. It was centralized later at the site of the first multi-room school. Sub-centralization began with the establishment of more than one school system and continued with the construction of schools on more than one site by different school systems.

Some segregation of space at school sites occurred. There was segregation of area for school sites at the east edge of the city. Property adjacent to two of the private schools was used by the sponsoring churches.

School site selection had resulted in the invasion of residential areas in three places, and in invasion of areas on the periphery in other instances. A site acquired by the Separate School District in 1962 was previously reserved for school purposes by the city. Here the invasion was by the city, not the school system. One private school site was invaded by the provincial government for expansion of a home for senile persons.

School sites seemed to reflect competition for space. Old sites in residential areas were small. Some streets

and avenues were closed to permit enlargement of school sites. Sites reserved in 1962 were larger than other school sites--perhaps a way to compete for space, a scarce commodity. In 1962 the Separate School District and the Public School District asked the city for the same site for an elementary school. Town planners, by reserving space for schools in new residential areas, entered into the competition for school space.

The future use of present schools and school sites probably will be affected by the competitive process. The demand for space for different grade levels, for changing curricula, for playgrounds, and for increasing school population has resulted and likely will continue to result in changed use of some schools and school sites. Future use of present schools likely will be influenced by invasion of residential areas by the commercial zone.

C. 2. The ecology of schools is a factor in the distribution of school pupil personnel.

2.1 In a small city the shape and size of Camrose it appears that the distance to school for junior and senior high school pupil personnel compares favorably with maximum distances recommended in literature, but for elementary school pupil personnel some travel further than recommended maximum distances. The problem of distance is

greater in the Separate School District, with one elementary school, than in the Public School District with six elementary schools. Higher percentages of Grades V and VI pupil personnel in the Public School District travelled further to school than pupils in the first four grades.

2.2 All elementary and junior high school grades are not taught at each school offering some of the elementary and junior high school grades. It follows that neither elementary or junior high school pupils can attend one school only for all grades. Pupil movement beyond city area boundaries is greatest for Grades V, VI, and IX.

2.3 The Saint Patrick's School, the only school operated by the Separate School District in Camrose, seems to be located near areas of concentration of pupil personnel.

2.4 It seems that concentration of personnel near a school may be a reason for the selection of the school site, that it may reflect socio-economic standing of the families, or that it may reflect competition for space near the school. On the other hand, concentration of personnel near schools can be due to town planning, which is controlled competition for space near schools for residential purposes.

C. 3. The ecology of schools is a factor in the distribution of school adult personnel.

3.1 The occupied part of the area enclosed by the boundaries of the City of Camrose is within a rectangle

about one and one-half miles by one to one and one-half miles. It is unlikely that many people will live more than one mile from work due to the size of the city.

3.2 Private school personnel may live nearer the school than personnel at other schools for three reasons. An economic reason may be one since residence near the school will eliminate the expense of the journey to work. Another reason may be campus residence, and a third reason may be residential segregation.

3.3 The length of time that a school system has been established and trends in transportation may be factors in the location of adult school personnel residence. The Public School District, established earliest and with some employees resident in the city for more than twenty years, has more personnel living near the schools than either the Separate School District or the Camrose School Division, both established since 1950. Public School District adult school personnel may have purchased homes within easy walking distance since many did not own cars before 1950.[1] Distance for school personnel of the Camrose Separate School District and the Camrose School Division may have been less important since many became employees

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[1] The researcher recalls an increase in car ownership by teachers after approximately 1950.

in the city after cars became a common form of transportation for teachers.

3.4 Non-professional personnel at the private schools more than at other schools, and non-professional more than professional personnel require campus residence space by the nature of their work.

3.5 Church association with the Separate School District and with the private schools may be an influencing factor in the segregation of school adult personnel in the area where the school is located.

3.6 Socio-economic reasons may contribute to the distribution of professional and non-professional personnel. Non-professional personnel tend to live in residential areas where Class 3 and 4 residences are available and to live within walking distance of their work. Professional personnel tend to live where Class 1 and 2 residences are located, and the distance does not seem to be as important a factor as it is with non-professional personnel.

C. 4. The ecology of schools is a factor in the journey to school of school pupil personnel.

4.1 The journey to school is largely a responsibility of the family. While most pupils journey to and from school independently, this independence is reduced by cold weather and by distance. Findings suggest that

when parents go to work at the time that pupils go to school, the pupils ride to school, that these rides are more available for pupils to journey to school than from school, and that these rides are more available for pupils attending centrally located schools. Moreover, the distribution of some pupils not travelling independently suggests that the socio-economic standing of families may contribute to pupils being dependent upon parents for the journey to school.

4.2 There is co-operation among some families to transport their children to school.

4.3 Since the Camrose School Division is the only school system that operates school buses, all pupils riding on buses must live in the Camrose School Division, or journey to school on a bus by arrangement with the Camrose School Division.

4.4 Maximum distances to travel independently to school seem apparent at different grade levels and for different seasons. For elementary school pupils it seems to be from one-half to three-quarters mile in October, from one-quarter to one-half mile in January, and about three-quarters mile in May. For junior high school pupils the maximum distance travelled independently in October seems to be three-quarters mile to school and three-quarters to one mile from school, in January seems to be one-half to

three-quarters mile to school and one-half to one mile from school, and in May seems to be three-quarters to one mile. For senior high school pupils the maximum distance travelled independently seems to be one to one and one-quarter miles in October and May and three-quarters to one mile in January.

4.5 If pupils must travel to school independent of others, is the maximum distance for them to travel the maximum for the month of January--for elementary school pupils from one-quarter to one-half mile, for junior high school pupils one-half to three-quarters mile, and for senior high school pupils three-quarters to one mile? These distances are less than those recommended as grade level maximums in literature reviewed.

4.6 The number of pupils having noon lunch at school seems to be influenced by grade level, by distance from school, by seasons, by schools or school systems, and by mode of journey to school. Elementary school pupils living beyond three-quarters mile from school in October, beyond one-half in January, and beyond one mile in May likely eat their noon lunch at school. At the junior high school level it is likely that pupils living more than one mile from school in October, more than three-quarters mile in January, and in the rural area only in May eat their lunch at school. The maximum distance for senior high

school pupils to travel home for noon lunch seems to be approximately one mile in October and May and slightly less in January. Variations by schools of the same grade level suggest that socio-economic factors may influence pupils to eat lunch at school--that parents may be away from home during the noon recess.

4.7 Ecological processes were evident in the distribution of pupil personnel and in their journey to school. Pupils were concentrated in the City of Camrose and in the surrounding rural area. Pupils in the Camrose School Division, the Camrose Separate School District, and at each private school were centralized at one school in each school system. With several schools in the Public School District, sub-centralization of the pupils occurred at each school.

There was some evidence of concentration of pupil personnel near schools. All Bible school pupils lived on the campuses. The Camrose Lutheran College had a marked concentration of pupil personnel on or near the campus. Separate School District pupils tended to live near the school. There was some evidence of concentration of pupil personnel in the Public School District near the schools.

Several forms of segregation occurred. Pupils in each school system were segregated from pupils in

other school systems socially and spatially while at school. In the Public School District pupils were segregated by schools within the school system. In all schools pupils were segregated by grades. Segregation resulted from the mode of journey to school--a pupil's means of solving the problem of the competition for space near the school. Those pupils who ate noon lunch at school were segregated from those who went home for lunch.

There was some evidence of invasion but little evidence of succession. Since the attendance boundaries of city school systems overlapped, pupil personnel in each school system invaded the attendance area of other school systems. Succession of any area to a school system seemed to occur only on the space occupied by the school site itself.

C. 5. The ecology of schools is a factor in the journey to work of school adult personnel.

5.1 Most adult personnel journey to school independently--either by walking or driving a car. From 3 to 17 per cent are dependent upon someone to get to school, the percentage depending upon the time of day and the season.

5.2 When adults depend upon someone to get to school, some make the journey to school only once daily.

5.3 For professional personnel employment on the periphery and dependence upon someone to journey to school seem to show some relationship.

5.4 Adult personnel do not tend to change their form of transportation with the seasons.

5.5 Since non-professional personnel employed downtown tend to drive a car to work more than those employed on the periphery, the car may be a status symbol. Again, periphery employment may be possible because it is accessible by walking.

5.6 Since the analysis suggests that adults tend to walk no more than one-quarter mile to work, distance to work, car ownership, or some other means of transportation may be conditions of employment at some school sites.

5.7 Private school adult personnel, tending to walk further than adult personnel at other schools, may walk for an economic reason.

5.8 Automobile transportation makes it possible for adult personnel to be transferred from one school to another. Thus the right person for the job may be brought from a distance if necessary.

5.9 Social segregation, a result of the journey to work and its frequency, may influence the informal organization of the school. Persons who walk are segregated from those who ride. Those who drive a car are segregated from others during the journey. Those who

eat lunch at school are segregated from those who do not.

5.10 The journey to work may affect out-of-school social contacts. In the past to walk to work was one way to meet adults in the community. Now, automobile transportation has eliminated many of the social contacts made with other adults on the way to work. Moreover, to drive to work may be used to avoid meeting adults and pupils on the street.

5.11 Ecological processes were evident in the distribution of adult personnel and in their journey to work. Adult school personnel were concentrated in Camrose and centralized in school systems with sub-centralization within the school systems at different sites of employment.

There was some evidence of concentration of adult school personnel near their place of employment.

Adult personnel of each school system invaded, by their place of residence, the attendance areas of other school systems. However, there was no evidence that any area was succeeding to any school system.

Adult personnel to a degree were segregated. While professional personnel tended to live in Areas IV and V, and non-professional personnel tended to live in Areas II, III, and IV, this was not exclusively. Adult personnel were segregated by school systems, by their place of employment, and by their professional or non-professional status.

Segregation resulted from the mode of journey to work--the means of solving the problems resulting from the competition for space near the place of work. Additional social segregation was an outcome of some adult personnel eating their noon lunch at their place of work.

C. 6. The ecology of schools is a factor in the community use of school property.

6.1 The ecology of schools is important for three kinds of school use. Persons living comparatively close to schools constitute the largest proportion of the audience at meetings. Nearness of the school where adult education classes were held was a factor in decision making for 19 per cent of the persons taking the courses. Schools are used for civil defence and other civic uses to serve segments of the city.

6.2 For concerts, sports, and fourteen miscellaneous uses the size, the kind of facilities, and church affiliation appear to be the main factors, rather than location, for determining community use of schools.

6.3 For adults the community does not seem to have the characteristics suggested by Riemer and Brussat, and Glass to define a neighbourhood.

6.4 Parochial schools may increase cohesion among some families since adult as well as pupil use of schools seems to be associated somewhat with church affiliation.

The diverse school systems may encourage social segregation.

6.5 The area in which the competition for space takes place around schools is enlarged by automobiles and improved roads.

6.6 Distance from school can accentuate socio-economic differences among adults by making participation or attendance impossible for those without transportation.

6.7 The ecological processes of concentration, sub-centralization, and segregation, are evident in the community use of school sites and buildings. Evidence of centralization, invasion, and succession seems to be very limited.

4. RECOMMENDATIONS

The Writer's Value Position

A consideration of the ecology of education in a town or small city by town and educational planners can and should contribute to the achievement of the goals of education. While town and educational planners or administrators may find particular concern with specific aspects of the ecology of the urban centre, there is much which needs the attention of both bodies of administrators. It is essential that these administrative personnel be familiar with the ecology of school sites, with the ecology of school personnel, and with the ecology of schools as a

factor in school and community relations.

From the above value position the findings of this study suggest that serious consideration be given to the following recommendations.

The Ecology of School Sites

1. *City and school administrative bodies, as co-operating agencies, should be familiar with the ecological processes, should observe them at work in their city, and should use this observation to assist in city and educational planning.*

1.1 Ecological processes of invasion and succession should be investigated before educational facilities on old school sites are expanded or renovated. Educational planners should be familiar with projected plans of the city growth since future school population location will be influenced.

1.2 Educational planners should avoid construction on already occupied school sites which will reduce the area of the playground to a size too small for the school enrolment.

1.3 The Battle River Planning Commission, an advisor to Camrose, includes plans for new school sites in residential development areas which should be given serious consideration by educational planners. The area

recommended, approximately one acre per classroom, should serve as a suitable guide for site size.

1.4 Residential schools catering to older youths and adults should be located on the periphery.

1.5 Traffic arteries and parks should be located in relation to natural boundaries to divide the city into areas large enough to require at least a six-room public elementary school. Development of long narrow residential areas should be avoided. Direct access to all school sites should be maintained.

The Ecology of School Personnel

2. *Study of the ecology of school personnel and observation of the ecological processes by city and school administrative bodies should be used to assist in the administrative tasks.*

2.1 When selecting school sites or determining attendance boundaries, administrative bodies should consider the probable distance school pupil personnel journey independently to school--one-quarter to over one-half but less than three-quarters mile for elementary school pupils, one-half to one mile for junior high school pupils, and three-quarters to one mile for senior high school pupils, the distance varying with the season and the time of day.

2.2 Where city transit service is not available,

administrative bodies should aim to locate schools to enable pupils from Classes 3 and 4 residential areas to be within the optimum distance to travel to school independently. From these residential areas families may be unable to provide vehicle transportation for their children, and then distance could be a contributing factor in irregular attendance and withdrawal from school.

2.3 Schools should provide accommodation and noon supervision for pupils eating noon lunch at school if elementary school pupils live more than one-half mile from school, and if junior and senior high school pupils live more than one mile from school. The effect of these maximum distances will vary with school systems, residential areas, and seasons.

2.4 The journey to school by pupil personnel should be a factor in traffic control. Safe cross-walks on busy pupil pedestrian routes, and supervision of pedestrian crossings particularly when pupils are leaving school, in the afternoon, and in the spring and fall (times when the highest percentage of pupils journey independently) should be maintained. Noon recess dismissal at 11:45 a.m. will permit some pupils to reach home prior to the increased vehicle traffic at the noon hour.

2.5 Passenger cars and school buses should have loading zones at school sites which are located to permit

pupils to reach them without crossing traffic lanes or vehicle entrances to the school site.

3. Study of the ecology of school personnel and observation of the ecological processes by school professional personnel should be used to facilitate teaching and learning.

3.1 The distribution and journey to work of school pupil personnel should be a factor in school and classroom administration. They should be considered when dealing with discipline problems, tardiness, school dismissal, curriculum planning, and scheduling of extra-curricular activities. Provision should be made for access to the school building--likely more necessary at schools located near the downtown part of the city--for pupils who must arrive at school early because they are dependent upon a parent or neighbour on their way to work to take them to school.

3.2 Ecological processes should be considered when dealing with pupil administration generally, with formal and informal organization of pupils, and with discipline problems; for example, probable influences of social segregation by pupils eating lunch at school, by pupils journeying to school by different means, and by rural, urban, or campus residence; probable influences of invasion of attendance areas by different school systems or schools

within the same school system; and expenditure of pupil energy in the journey to school.

3.3 The distribution and journey to work of school adult personnel should be a factor in school administration and educational planning. Changes in regular routine should be announced well in advance to prevent inconvenience to adults in their journey to work--especially important at schools on the periphery where the highest percentage of personnel is employed who depend upon someone to journey to and from work. Provision for parking, for electrical heating of cars during the winter months, and for noon lunch facilities for adult personnel should be considered in educational planning. Employees should be encouraged to overcome problems of the journey to work to enable them to be employed where they will be most efficient in the school system. The expenditure of adult energy in the journey to work should be considered.

3.4 Ecological processes should be considered when dealing with school administration generally and with formal and informal organization of the school; for example, segregation resulting from residence location, from mode of journey to work, from professional or non-professional nature of work, from eating lunch at school, and from the employing school system. At the same time the administrator should be aware that residential isolation is

overcome by the mode of journey to work, and that this same mode of journey may be effective in overcoming residential isolation outside of school hours.

The Ecology of the School as a Factor in School and Community Relations

4. *Since the schools are used by the adult community, town and educational planners should consider, from the standpoint of the adult population, the ecology of schools and the ecological processes when planning school sites and buildings and when planning the use of existing school facilities.*

4.1 If school buildings and sites are to be used for concerts, civil defence purposes, and sports activities, city and school administrative bodies could incorporate in school building and site plans suitable auditorium and gymnasium space, shelter areas, and playing fields. Adequate parking space, spectator space, and free access to and from the location should be assured. Maintenance of shared property probably should have some arrangement for shared responsibility.

4.2 When planning the use of a private school for the adult community, educational planners should consider the effect of church affiliation upon the use of school property by adults.

4.3 The location should be considered when a school is selected for use for meetings and for adult education. Adults without vehicle transportation are unlikely to attend if they live more than one-quarter to one-half mile from the school. If there is a choice of location, the school most centrally located for the possible attending population should be used, thus reducing the segregation resulting from socio-economic differences.

5. *If recommendations 1 to 4 are to be implemented, then school and city administrative bodies, planners, and school and city officials must come together to make plans.*

CHAPTER XIV

SUGGESTIONS FOR FURTHER RESEARCH

The ecological approach, while it has limitations, provides a structure for observation. Using the ecological structure for observation, the analysis concluded in Chapter XIII opens areas for further investigation in ecology of education. Some of these areas for further research arise from hypotheses suggested in this study. Others are in related fields of ecology of education.

Specific Problems Arising from the Foregoing Analyses

School sites.

1. Are there latent reasons--economic, political, and religious--for providing free school sites in western Canada or elsewhere? This is a problem for historical research.

2. Does optimum size of school sites vary in communities? For example, is an area of one acre per classroom a suitable size in a small city?

3. What are the advantages to a school and community arising from a location by a park and playground? In this study school sites were found to be not so located yet this is a recommendation that is made in literature.

Attendance boundaries.

1. To what extent do traffic arteries and natural boundaries in small cities affect attendance areas? In this study it was found that they seemed to affect attendance boundaries only when the same grade was taught in the same school system at more than one site.

School personnel.

1. In small cities to what extent is concentration of residences of pupil and adult school personnel near schools due to the school system, age of the school, length of employment in the school system (for adults), length of residence in the city, availability of specific housing quality, church affiliation, and socio-economic status? The reasons for residential concentration were not investigated in this study.

2. To what extent is the journey to school for pupil personnel influenced by the socio-economic status of the family, by downtown or peripheral location of the school, and by availability of rides when adults journey to and from work? In this study some pupil personnel at both peripheral and central locations showed considerable dependence upon others for the journey to school.

3. Are community social patterns influenced extensively by the journey to school of school personnel? This

study shows that some neighbours co-operated to accomplish the journey to school.

4. Depending upon the season, in the Canadian Prairie Provinces is the optimum walking distance to school for elementary school pupil personnel from one-quarter to three-quarters mile, for junior high school pupils from one-half to one mile, and for senior high school pupils from three-quarters to one mile? A comparison of percentages in this study of the distribution and journey to school of pupil personnel suggests that these were the distances that pupils walked in Camrose.

5. When the distance to school in a small city with no public transit system does not exceed one mile, is the responsibility for the journey to school intra-family? When the distance exceeds one mile does the responsibility for the journey to school tend to be inter-family? This study suggests that this was probably the case in Camrose.

6. Is a distance of one-half to one mile (depending upon the season) for elementary school pupils and of one mile for junior and senior high school pupils a deciding factor for pupils to eat noon lunch at school? This study suggests that these are the distances upon which some decisions are based.

7. What factors other than distance influence pupil personnel to eat noon lunch at school? Are school customs, parental work patterns, school programming, and the magnetic effect of a large number of pupils eating lunch at school influencing factors?

8. What is the distance beyond which adult school personnel in the Canadian Prairie Provinces do not walk to work? This study suggests that it is one-quarter mile.

9. Are a distance of three-quarters to one mile from work and dependence upon someone to journey to work factors contributing to the decision of adult school personnel to eat noon lunch at school? This study suggests that these conditions may have influenced decisions.

10. Is a means of transportation a condition of employment for some adult personnel? In this study there was a tendency for those employed on the periphery to depend upon someone to journey to and from work more than those employed in central locations. Would these adults be available for employment if they did not have a mode of transportation?

11. Does the ecology of schools influence the formal and informal social structure of school organization? The influence of the distribution and journey to work upon the social structure of the school has not been analyzed.

School-community relations.

1. Are the ecological processes of competition for space influenced by the degree of one's physical mobility? This study does not show the effect of access to automobile transportation on competition for space near schools.

2. Does church affiliation or facilities available rather than location of the school in a small city determine much of the use made of schools by the community? If comparable facilities are available at two public school sites, is the most accessible site the one used most frequently? The analysis in this study of this aspect of community use of school property is incomplete.

3. Is community use of school property by adults influenced by education, past experiences, age, sex, social class, ethnic origin, religion, values, and social mobility? This is an area for considerable research.

4. What effect does the time of day have on the availability of school property for adult use? This study has investigated the uses adults make of schools in the evenings and on holidays when adults do not have to compete with pupils for space in schools.

5. What effect has residential and social segregation on community use of school property? This study has suggested that there is some residential and social

segregation in Camrose. The effect of what seemed to be segregation on community use of school property was not investigated.

6. Do diverse school systems encourage segregation? The effect of several school systems on communities needs to be investigated.

7. Does physical mobility of members of the community make the geographic area of identification less significant? Instead, does identification with specific groups become important?

Other Levels for Studies in Ecology of Education

Urban community.

1. This study is an incomplete analysis of a given community situation. The distribution of children that use school property for informal play, the use schools make of city parks and recreational facilities, and the distribution of pupil personnel who participate in extra-curricular activities need to be examined for school and city planning.

2. The social and cultural aspects of city areas need to be investigated in relation to the ecology of cities. School programming, pupil withdrawal from school, scholastic achievement of pupil personnel, and community

relations need to be studied in relation to social and cultural characteristics of city areas.

Rural community.

1. There is a vast area for research in the ecology of schools in Alberta counties and school divisions.

Regions.

1. Climatic conditions seem to be factors influencing the competitive processes. This study is confined to the boundaries of a small city in Alberta. Similar studies need to be conducted in regions with different climates.

Buildings.

1. There is room for research in ecology of education within school buildings. The ecology of personnel, ecology and academic streaming of pupils, ecology and the formal and informal social structure of the school, and ecology and school administration are areas for research in the ecology of the school building. A study comparing ecology within schools of different designs should provide valuable information for school architects.

Transportation and communication.

1. Transportation and communication and their

effects on the competitive processes in ecology of education are areas for further research. How do transportation facilities and telephones affect the ecological processes? What effect upon the ecological processes within a school building do elevators and intercommunication systems have?

Conceptual development.

1. There is a need for the conceptual development of ecology of institutions. The theory of the ecology of education needs to be developed to avoid the difficulties found in applying present theories and terminology of ecology derived from community study to institutional ecology.

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APPENDIX

SCHEDULE

SCHOOL PUPIL PERSONNEL

Please give the information requested below in the space provided.

NAME: ______________________________ GRADE: ________

ADDRESS: ____
(Street, house number)(If rural give land description.)

NAME OF SCHOOL ATTENDED: ____________________________

IF ATTENDING A PRIVATE SCHOOL GIVE HOME ADDRESS: ________
(Town or city, province)

. . . .

The following are some ways of travelling to and from school. Each means of travel is numbered. Read them. Then give the information requested below.

1. walk
2. ride a bicycle
3. ride a motor bicycle
4. driven by someone in your household
5. driven by a neighbour
6. driven by a parent and a neighbour taking turns
7. drive your own car
8. ride with a student who drives his/her own car or a family car
9. ride in a school bus
10. ride part way in a school bus and walk or ride part way in a car or other vehicle
11. ride in more than one school bus
12. ride in more than one bus and walk or ride part way in a car or other vehicle
13. other

Write the number in the space provided which indicates your means of travel for each of the following times. If you have your noon lunch at school, you will not mark (b) or (c).

Write ONE number only in each blank.

	in Oct.	in Jan.	in May
(a) to school in the morning			
(b) from school in the morning			
(c) to school in the afternoon			
(d) from school in the afternoon			

SCHEDULE

SCHOOL ADULT PERSONNEL

If you are employed by a school district, school division, or private school in Camrose, please give the information requested below in the space provided.

NAME: ____________________

ADDRESS: ____________________
(house number, street)(If rural give land description.)

NAME OF EMPLOYER: ____________________

LOCATION OF EMPLOYMENT: ____________________

TYPE OF EMPLOYMENT: (Please check the appropriate space.)

Teacher or principal	(____)
Librarian	(____)
Secretary	(____)
Stenographer	(____)
Janitor	(____)
Bus driver	(____)
Garage employee	(____)
Private school residence staff	(____)
Other (indicate) ______________	(____)

If you live on a school campus check in the space at the right . . . . (____)

TRANSPORTATION: (For personnel not living on a school campus) The following are some ways of travelling to and from work. Each means of travel is numbered. Read them. Then give the information requested below.

1. drive my own car
2. driven by someone in my household
3. ride with another employee of the school
4. ride in a school bus
5. ride part way in a school bus and walk part way
6. ride part way in a school bus and ride part way in a car or other vehicle
7. walk
8. ride a bicycle
9. other (Indicate your means of travel.) ________

____

Write the number in the space provided which indicates your means of travel for each of the following times. Write ONE number only in each blank. Indicate the means of travel used most frequently in each case.

	in Oct.	in Jan.	in May
A. to work in the morning	(_____)...	(_____)...	(____)
B. from work in the morning	(_____)...	(_____)...	(____)
C. to work in the afternoon	(_____)...	(_____)...	(____)
D. from work in the afternoon	(_____)...	(_____)...	(____)

SCHEDULE

ADULT EDUCATION COURSES IN CAMROSE

Information related to the adult education courses offered in Camrose Schools during the period from September, 1961 to June, 1962, is requested below.

NAME: ______________________________

ADDRESS: ____________________________
(house number, street, town, or city)

SCHOOL IN CAMROSE WHERE CLASSES WERE ATTENDED: ________

NAME OR TYPE OF COURSE TAKEN: ______________________

MEANS OF TRAVELLING TO CLASS: (Check the appropriate space)

1. drive my own car . . . . (____)
2. driven by someone in my household . . (____)
3. ride with someone else . . . . (____)
4. ride a bicycle . . . . (____)
5. walk . . . . (____)
6. other (indicate) ______________ . . (____)

How did the location of the school affect your decision to take the course? Please check the appropriate space below.

1. The nearness of the school was a factor in helping me decide to take the course. (____)
2. My distance from the school made the decision to take the course difficult. (____)
3. The location of the school in Camrose had no effect on my decision. (____)

SCHEDULE USED FOR INTERVIEW GUIDE

USE OF SCHOOL PROPERTY BY THE COMMUNITY BY OTHER THAN STUDENT PERSONNEL FROM SEPTEMBER 1961 TO JUNE 1962

NAME OF SCHOOL . . . .

MEETINGS HELD IN THE SCHOOL

Name of Organization	Frequency of Use
. . . .	
. . . .	

CONCERTS

Name of Sponsor	Frequency of Use
. . . .	
. . . .	

SPORTS

Type of Activity	Frequency of Use
. . . .	
. . . .	

CIVIC (For example, voting polls)

. . . .

. . . .

OTHER USES

Type of Activity	Frequency of Use
. . . .	
. . . .	

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